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United States General Accounting Office

Report to the Honorable  
John W. Warner, U.S. Senate

July 1993

# ROLES AND FUNCTIONS

## Assessment of the Chairman of the Joint Chiefs of Staff Report



**93-19827**



National Security and  
International Affairs Division

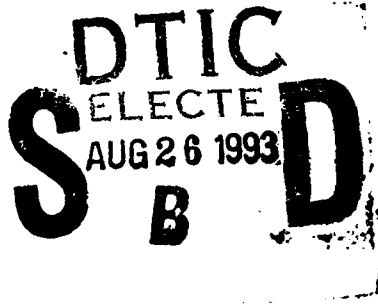
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July 15, 1993

The Honorable John W. Warner  
United States Senate

Dear Senator Warner:

As you requested on February 17, 1993, we reviewed the February 1993 report of the Chairman, Joint Chiefs of Staff, on the roles, missions, and functions of the armed forces.<sup>1</sup> This report presents our assessment of the methodology used by the Joint Staff in preparing the report and identifies opportunities for eliminations, reductions, consolidations, and realignments beyond those cited in the Chairman's report. It also discusses obstacles that make reductions in overlapping military capabilities difficult to achieve.



## Background

The broad roles of the armed forces are specified in the National Security Act of 1947, codified in title 10, U.S. Code. Following passage of the legislation, the Secretary of Defense held two conferences to amplify the responsibilities of each of the services. Agreements reached at those meetings provided the foundation for Department of Defense (DOD) Directive 5100.1, disseminated in 1954, which assigned functions to the military services and other DOD components based on the roles established in the legislation. Since that time, there have been no major changes to the services' roles and functions.

Partly out of concern that the current assignment of roles, missions, and functions was of limited utility in eliminating unnecessary duplication and in maximizing force effectiveness, the Congress passed the Goldwater-Nichols Department of Defense Reorganization Act in 1986. This act, among other things, directed the Chairman of the Joint Chiefs of Staff to review the roles and functions of the military services not less than every 3 years and issue a report containing recommendations for changes in the assignment of functions considered necessary to achieve maximum effectiveness of the armed forces. The Chairman, in examining potential changes in the assignment of functions, is to consider, among other matters, changes in the nature of the threat, unnecessary duplication of

<sup>1</sup>Roles are the broad and enduring purposes for which the military services were established by the Congress in law. Missions are the tasks assigned by the President or the Secretary of Defense to the combatant Commanders in Chief. Functions are specific responsibilities assigned by the President and the Secretary of Defense to enable the services to fulfill their legally established roles.

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effort among the services, and changes in technology that can be applied effectively to warfare.

The Defense Authorization Act for Fiscal Year 1993 added additional matters for the Chairman to address in his report, including (1) reassessments of each service's roles and functions in light of the new national security environment; (2) the extent to which the efficiency of the armed forces can be enhanced by the elimination or reduction of duplication in the capabilities of the DOD components and by the consolidation or streamlining of DOD organizations and activities; (3) changes in deployment patterns, operational tempos, and readiness status of forces; and (4) transfers of functions from active to reserve components.

The February 1993 report—the second issued under the Goldwater-Nichols legislation—contained recommendations to the Secretary of Defense that addressed both combat and support functions and some specific programmatic issues. The Secretary has since directed that 11 recommendations be implemented immediately and 12 others be examined in fast-track studies to explore additional options and develop implementation proposals. Three recommendations requiring no immediate changes were also accepted. A summary of the Secretary's actions is included in appendix I.

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## Results in Brief

Although the Chairman's report identified some important opportunities for change and went beyond the first study completed in 1989, it did not recommend significant reductions in overlapping functions. The depth of analysis of many functions was insufficient for proposing more extensive changes. This may, in part, be due to the Chairman's decision that the report focus on the assignment of responsibilities to the services and not generally include assessments of whether the aggregated capabilities of the services exceed requirements. For example, no options were examined to address ways of reducing duplication between Army and Marine Corps crises response forces that provide essentially the same ground combat capability and may be assigned similar objectives when engaged in land operations. In close air support of ground forces, there was no detailed analysis of the relative contributions of fixed- and rotary-wing assets for meeting overall mission requirements. Additionally, the extent to which other types of weapons, such as the Multiple Launch Rocket System, can be used to reduce the requirements for close air support aircraft was not addressed.

Attempts to reduce unnecessary overlaps in the roles and functions of the military services will require aggressive leadership and in-depth analysis, as such efforts are likely to encounter considerable opposition. Since World War II, the services have developed autonomous capabilities because combat functions were very broadly defined and because the Soviet threat warranted a level of overlap to maximize effectiveness. The force structure and array of weapons each service possesses today reflect the evolution that has taken place over the past 40 years. Efforts to eliminate unnecessary overlaps threaten the size and future of those forces and, thus, invite resistance from the losing service and its supporters. A concerted and broadly supported effort will be required to overcome the strong opposition to change.

Through our reviews, we have identified additional opportunities to address overlapping capabilities and improve the efficiency of the armed forces beyond those cited in the Chairman's report. For example, service plans to upgrade air superiority and interdiction capabilities, which are estimated to cost hundreds of billions of dollars, should be reexamined as to whether they fully consider the existing capabilities of each service and are justified given the change in threat and concerns about affordability. Other areas warranting close examination include alternatives to aircraft carriers for providing overseas presence and crisis response capability; further reductions in intelligence activities, test and evaluation capabilities, maintenance depots, and undersea surveillance capability; and more effective employment of reserve forces. DOD's Bottom-up Review of Defense Needs and Programs could serve as a vehicle for addressing many of these issues further.

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## Limitations of the Joint Staff's Review

The focus of the Joint Staff's review, particularly as related to some key combat functions, was on the appropriateness of the assignments of functions to the services. The study, with a few exceptions, did not address whether the services' aggregate capabilities exceed post-cold war requirements and it made little attempt to address overlaps by distinguishing in greater detail the responsibilities of the individual services where overlap exists. Further delineation would be particularly helpful in addressing force structure issues, such as the number and mix of aircraft and other weapons required to provide close-in fire support for ground forces and to interdict enemy forces deep in their own territory. The study also deferred decisions on the potential for further changes in several key areas.

Options were not developed or presented to the Secretary of Defense for addressing overlaps and duplications that have evolved among the services in air interdiction capabilities or between Army and Marine Corps crises response forces. For example, in analyzing the theater air interdiction function, only fixed-wing aircraft were considered. Options for performing interdiction missions using the capabilities of land- and sea-based missiles and long-range artillery—all of which performed interdiction missions during the Gulf War—were not considered. The Joint Staff said such issues and the resulting force structure implications are very scenario dependent and should be addressed in DOD's planning, programming, and budgeting process, not in the Chairman's report.

Also excluded from the Joint Staff's detailed review were key post-cold war functions, such as peacekeeping and disaster relief assistance. The new Atlantic Command has been assigned responsibility for supporting these functions; however, the roles and functions of the individual services have not yet been defined.

Methodological limitations hampered the depth of the study. The Joint Staff's evaluation was relatively short in duration, not beginning until July 1992 with a report originally due to the Secretary of Defense 4 months later. To compensate for this, DOD said the staff assigned were hand selected for their expertise and knowledge, and were provided close high-level supervision, and the report they prepared was reviewed and commented on by the service chiefs and combatant commanders. We were told the working groups that performed assessments in preparation for writing the report did some analyses and prepared summary reports, but most of these, including cost analyses, have been destroyed. The evaluation appropriately relied on other studies as the source of information and analysis of several functions; however, at least one of these studies—the Depot Maintenance Consolidation Study—had limitations that affected the identification of excess capability. In combat functions involving two or more of the services, no joint analyses of the functions were available. The Joint Staff is only now beginning its first such analysis.

Although the study's focus and methodology were limited, most of the recommendations appeared to be sound. However, implementation of some of the recommendations may encounter difficulties, including several related to training and the proposal to place the U.S. Space Command under the U.S. Strategic Command. We discuss specific

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functions, Joint Staff review limitations, and implementation issues in more detail in appendix II.

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## **Factors Inhibiting an Aggressive Examination of Overlapping Capabilities**

The end of the cold war has materially altered the international security environment and set the stage for the most fundamental and potentially far-ranging reexamination of national defense policy and structure in 40 years. If this reexamination is to eliminate unnecessary overlap and duplication among the services—as declining budgets suggest—aggressive leadership from the highest levels of the administration and the Congress will be required. The potential disruption to service force structures and weapon system programs—with direct implications for end strength, budget levels, and service traditions—represents a formidable obstacle to reducing duplicative roles, functions, and capabilities.

The DOD directive that assigns functional responsibilities to DOD components was originally conceived to address the issue of duplication of functions among the military services. However, the directive, in defining the functions broadly to meet service approval, has allowed the services to develop autonomous capabilities and to operate as separate entities.

The duplication of capability is further reinforced by the weapon acquisition process. The organizations responsible for developing requirements for new weapons generally represent individual branches within the services. They analyze their own mission deficiencies and recommend solutions from within their particular branches. Consequently, when an organization such as the Army Aviation Center analyzes the threat and identifies deficiencies, it proposes solutions in terms of Army helicopters. Similarly, the responsible Air Force command identifies deficiencies and recommends solutions in terms of fixed-wing aircraft. This organizational alignment largely explains why, as we reported in 1992,<sup>2</sup> the Air Force had not included Army attack helicopters as candidates for replacing its A-10 close air support aircraft (the same was true when the Air Force developed the A-10 in the early 1970s) and why, in the 1980s, the Army did not consider Air Force aircraft as alternatives to developing the Comanche light helicopter. Such narrow reviews of functions and requirements, together with each service's unwillingness to compromise on design or performance goals for weapons, have

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<sup>2</sup>Major Acquisitions: DOD's Process Does Not Ensure Proper Weapons Mix for Close Support Mission (GAO/NSIAD-92-180, Apr. 17, 1992).

contributed to the services' large investment in service-unique weapons that perform similar functions.

The flexibility of the directive, coupled with the services' independent development of force structures and weapon systems, fosters much of the redundancy and overlap that exist among the services today. Theater air interdiction is a prime example. According to the directive, interdicting enemy forces deep within their own territory is a primary function of the Air Force. However, with its broad function to defeat enemy land forces, the Army has developed an Advanced Tactical Missile System capable of interdiction deep into enemy rear areas. Moreover, the Navy, with its broad responsibility for conducting naval campaigns, has deployed the Tomahawk land attack missile and is planning to acquire a fleet of long-range stealth aircraft capable of attacking land targets.

DOD defends the duplications of capability and its approach to weapon acquisition on the basis that each service has valid complementary requirements. It says that the complementary nature of U.S. forces is even more relevant today than during the cold war. According to DOD, these complementary capabilities add to the options available to U.S. leadership in a crisis and allow combatant commanders to tailor a military response to any contingency.

We recognize that flexibility requires a certain amount of overlapping capability in U.S. forces. However, in the post-cold war era, the question is whether the United States needs, or can afford, current levels of redundancy. If this difficult question is not addressed directly and thoroughly, DOD may have to accommodate declining budgets by keeping existing capabilities intact but at reduced levels. Without comprehensive analyses of duplicative capabilities, it will not be known whether such accommodations provide the best defense.

## Opportunities for Further Change

Our work in progress and our prior reports indicate that there are several opportunities for additional reductions, consolidations, and other changes that would result in economies and efficiencies in defense operations. Serious consideration of many of these opportunities, which are discussed in greater detail in appendix II, is made both possible by the disintegration of the former Soviet Union and essential by declining defense budgets. DOD is examining a number of these concerns, many of which it believes are beyond the scope of the Chairman's roles, missions, and functions report.

Opportunities warranting further examination that we have identified in our prior reports include the following:

- In providing overseas presence, use less costly options for satisfying many of the aircraft carrier battle groups' traditional roles. For example, by relying more on increasingly capable surface combatants and amphibious assault ships and/or by employing a more flexible carrier deployment strategy, DOD could meet its forward presence needs with a smaller carrier force.
- In strategic nuclear forces, reassess the need for the triad of nuclear forces as currently comprised.
- In reserve forces, to improve reserve participation in future conflicts and to help rectify support force weaknesses, replace active support forces with reserve forces wherever such forces can be readied to deploy within required time frames and convert some late deploying reserve combat forces to support forces.
- In crises response forces, assess whether the number of Army light infantry and Marine divisions is more than what is necessary to meet expected threats.
- In depot maintenance, examine (1) cross-servicing proposals, (2) increased use of private sector maintenance capacity, and (3) the large amounts of depot-like capacity that exist at intermediate level maintenance units.
- In general support maintenance, determine whether reductions in the number of military units established to repair equipment in the rear area of the battle zone are possible, considering the significant contributions civilians are likely to make in accomplishing these tasks.
- In test and evaluation, consolidate Air Force and Navy electronic warfare test capabilities as well as high performance fixed-wing aircraft test capabilities.
- In strategic mobility, explore making greater use of combat equipment aboard current Marine Corps prepositioning ships as an alternative to acquiring all of the planned ships for Army equipment.
- In combat logistics, expedite the establishment of a single supply system to give greater visibility of inventories to wholesale level managers and facilitate redistribution of excess inventories.
- In antisubmarine warfare, closely examine the possibility of further consolidation of undersea surveillance capability.
- In training, further explore the use of civilian education institutions, such as community colleges, to provide initial skills training for military personnel.



Preliminary results from our assignments in progress indicate additional changes may merit examination, including the following:

- In space infrastructure, further examine the potential for eliminating the Army and the Navy space commands as recommended in a 1988 DOD report.
- In defense intelligence, pursue consolidating service component intelligence organizations and activities in Europe.
- In aerial refueling, explore enhancing refueling operations through expanded use of a common refueling system.
- In communications, consider making the Atlantic Command, which will be the joint command for U.S.-based forces, the focal point for establishing or reviewing all joint command, control, communications, computers, and intelligence requirements to ensure effective interoperability.

Although we are just beginning to evaluate it, we believe a difficult issue that needs to be confronted is the size and mix of the services' air forces. While sizeable cuts are being made in the air forces, the overlapping capabilities that remain and the costly upgrades that are planned dictate close examination of the functions performed by these platforms. Additional opportunities for change may be identified in DOD's bottom-up review. This review includes a further examination of the roles and functions of the military services.

## Agency Comments and Our Evaluation

DOD provided written comments on a draft of this report. It said that the report provides a useful assessment of the Chairman's review. It noted that the review of roles, missions, and functions is a matter of ongoing appraisal in DOD and that more than 30 major activities are underway in response to the Secretary of Defense's recent directive on roles, missions, and functions. Many of these deal with the same concerns our report raises. DOD disagreed with several aspects of our report. These comments are summarized below and are included in their entirety in appendix III.

DOD believes too much of our assessment is focused on how much overall military capability is required, not on which component of the armed forces should maintain responsibility in a given warfare area. It believes the assignment of responsibilities is the primary purpose of an examination of roles, missions, and functions. While the Goldwater-Nichols Act does not explicitly direct DOD to evaluate the amount of capabilities maintained by the services, neither does the act

preclude such evaluations. The national security environment has changed significantly since the act's passage; accordingly, the Defense Authorization Act for Fiscal Year 1993 asked more of the Chairman's report to help reduce duplicative military capabilities.

We believe an evaluation of roles and functions would be significantly enhanced by a corresponding evaluation of how much capability to perform specific functions is needed and can be afforded. The Chairman is in a unique position, as enhanced by the Goldwater-Nichols Act, to evaluate not only the assignment of responsibilities but also the amount and mix of capabilities that best meet national security requirements. With such an examination, the Chairman is in a position to recommend changes in capabilities to the Secretary of Defense that can be evaluated during DOD's planning, programming, and budgeting process. Several such examinations were, in fact, included at the direction of the Congress in this review by the Chairman.

DOD commented that we either do not account for or dismiss the specialized contributions of various force components. In cases where we suggest trade-offs, DOD believes we do not evaluate the capabilities that would be lost by making such trade-offs. We recognize that many of the U.S. forces have specialized capabilities and that, consequently, any evaluation will have to closely examine the potential effects on these capabilities. However, in light of the new national security environment and declining defense budgets, we believe reductions in duplicative military capabilities may be both warranted and necessary if the maximum efficiency and effectiveness of the armed forces are to be realized in the years ahead. Without closely examining opportunities for change, such as those we have identified, we believe it will be difficult to have assurance that the United States is optimizing the effectiveness of its armed forces.

DOD also said that we do not account for (1) the impact of the Goldwater-Nichols Act in overcoming resistance to reductions in duplication and (2) reviews by DOD's Joint Requirements Oversight Council that evaluate the mission needs and acquisitions of new weapon systems. We agree that the Goldwater-Nichols Act has had a significant impact, particularly on joint command of military operations. However, the impact of acquisition reforms, including establishment of the oversight council, have been much less clear. Our reviews of weapon programs and the acquisition process continue to find weapon programs being approved on a system-by-system basis with the need for the system often being

evaluated in isolation of the expected contributions of other systems with similar mission capabilities.

## Matter for Congressional Consideration

If the Congress intends for the Chairman of the Joint Chiefs of Staff's report on roles, missions, and functions, to include examinations of aggregate levels of capability needed to accomplish specific functions and missions to meet national security requirements, it should consider amending the act to specifically require such examinations. The Defense Authorization Act for Fiscal Year 1993 does require the Chairman to address in his report the extent to which the efficiencies of the armed forces can be enhanced by the elimination or reduction in duplication in the capabilities of the DOD components. However, it is not clear whether the intent of the Congress is for this to include examinations of "how much" capability is needed.

## Scope and Methodology of Our Review

We concentrated our review on those functions where we have recently completed audits or where we have ongoing reviews. Thus, we were able to both support many of the recommendations made by the Chairman and identify potential opportunities for further eliminations, reductions, consolidations, and realignments. In those instances where our work fully supports the Chairman's recommendations, we did not include them in this report.

To obtain an understanding of the methodology employed by the Joint Staff in preparing the report, we requested copies of analyses and other documents used in arriving at the positions taken in the Chairman's report. We also met with personnel from the Joint Staff who coordinated the preparation of the Chairman's report and with members of 18 of the 25 study or working groups that analyzed the roles, missions, and functions of the services. (App. IV is a Joint Staff's description of the process generally followed by the Joint Chiefs of Staff in preparing the Chairman's report.)

We performed our review from March 1993 to May 1993 in accordance with generally accepted government auditing standards. Our assessment of the Joint Staff's review was hampered by the lack of documentation available. There was no written guidance provided to the staff assigned to the project and the Joint Staff told us that most documents supporting the analyses conducted, including summaries prepared by many of the individual working groups and cost analyses, have since been destroyed.

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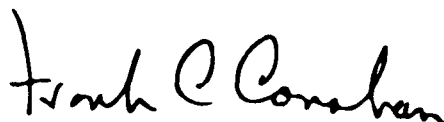
Additionally, written comments by the service heads and commanders of the unified and specified commands on a draft of the Chairman's report were not provided to us because they were considered "predecisional" documents. We disagree with this position. We believe the supporting documentation should have been made available to us.

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As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after its issue date. At that time we will send copies of this report to the Chairmen and Ranking Minority Members of the House and Senate Committees on Armed Services and the Senate and House Committees on Appropriations; the Secretaries of Defense, the Army, the Navy, and the Air Force; the Commandant of the Marine Corps; the Chairman of the Joint Chiefs of Staff; the Director, Office of Management and Budget; and other interested parties. We will also make copies available to others on request.

This report was prepared under the direction of Richard Davis, Director, National Security Analysis, who can be reached on (202) 512-3504 if you have any questions. Other major contributors are listed in appendix V.

Sincerely yours,



Frank C. Conahan  
Assistant Comptroller General

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**Abbreviations**

C4I	command, control, communications, computers, and intelligence
DOD	Department of Defense

# Secretary of Defense's Decisions on the Chairman of the Joint Chiefs of Staff's Recommendations

The Secretary's decisions on the Chairman's specific recommendations fall into three categories. These categories are (1) move quickly toward implementation; (2) undertake fast-track studies to explore some additional alternatives and to develop detailed proposals for implementation; and (3) accept the Chairman's recommendation that, for now, no immediate changes are necessary.

## Prompt Implementation

In response to the Chairman's recommendations, the Secretary decided to promptly implement 11 actions. Responsible organizations were to provide plans for accomplishing these actions to the Secretary by mid-June 1993.

Commander in Charge for Continental U.S.-based forces: The Chairman will prepare changes to the Unified Command Plan that expands the responsibilities of the Commander in Chief, Atlantic Command, to include command of Forces Command, Air Combat Command, Navy Atlantic Fleet, and Marine Forces Atlantic. This will give the Commander in Chief, Atlantic Command, additional responsibility for joint training, force packaging, and facilitating deployments of continental U.S.-based forces during crises; supporting United Nations peacekeeping operations; providing assistance during natural disasters, and planning for the land defense of the continental United States. Forces Command will no longer retain specified status.

Continental U.S. air defense forces: The Secretary of the Air Force will reduce forces dedicated to air defense of the continental United States. The mission will remain largely a reserve component responsibility.

Close air support: Close air support will become a primary function for all services, with each service specializing in different aspects of the close air support mission. The Chairman will ensure that Army and Marine Corps attack helicopters are fully integrated in close air support planning. The Chairman will develop standardized joint doctrine, tactics, techniques, and procedures.

Fixed-wing aircraft training: The Secretary of the Air Force, assisted by the Secretary of the Navy, will consolidate initial fixed-wing aircraft training for all services and transition to a common primary training aircraft. They will combine follow-on flight training into four pipelines (Navy fighter/attack, Air Force fighter/bomber, Navy and Air Force tanker/transport/maritime patrol, and helicopter). The services will begin

exchange of (1) instructors in fiscal year 1993 and (2) students in fiscal year 1994.

Aircraft requirements and inventory management: The Chairman, assisted by the service Secretaries, will develop a standard accounting system and terminology for aircraft inventories in all services.

Airborne command and control: The Secretary of the Navy, assisted by the Secretary of the Air Force, will consolidate airborne command and control operations for strategic nuclear forces in the Navy's E-6A platforms.

Combat search and rescue: All services will retain this function. The Chairman, assisted by the service Secretaries, will begin developing standardized joint doctrine, tactics, techniques, and procedures for search and rescue operations.

Operational Support Aircraft: The Commander in Chief of the Transportation Command will develop the capability to coordinate scheduling of continental U.S. operational support aircraft to allow more efficient use of limited assets. The Chairman will report on reduction of operational support aircraft that are excess to wartime requirements.

Attack helicopter maintenance and aircrew training: The Secretary of the Army will prepare plans for consolidation of some Army and Marine Corps attack helicopter maintenance and aircrew training. The Joint Requirements Oversight Council will stress continued exploration of common attack helicopter types.

General support helicopters: The Secretary of the Army, assisted by the other service Secretaries, will prepare plans for consolidation of general support helicopter maintenance training, simulator training, and maintenance infrastructure.

Marine Corps armor: The Secretary of the Army, assisted by the Secretary of the Navy, will establish joint procedures to provide additional armor support to the Marine Corps when required.

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## **Additional Study**

In response to the Chairman's recommendations, the Secretary directed that follow-on, fast-track studies be undertaken in 12 areas to explore alternatives and develop detailed implementation proposals. Initial results



of these studies were to be delivered to the Secretary of Defense by mid-July 1993.

Merger of the Strategic Command and Space Command: The Chairman will report findings on the proposed merger of the U.S. Strategic Command and the U.S. Space Command and possible designation of the Air Force Space Command as the primary agent for design, launch, and operation of satellites. The study will ensure that all interested services retain representation in the space component.

Depot maintenance: The Office of the Secretary of Defense, assisted by the service Secretaries and the Joint Staff, will assess the merits of establishing an executive agent, a joint command, or a defense agency for depot maintenance activities. The study will examine possible further consolidation of depot activities and competitive bidding. DOD should aggressively pursue reductions in excess depot capacity.

Initial helicopter training: The Secretary of the Navy, assisted by the Secretary of the Army, will report findings on consolidating Army, Navy, and Marine Corps initial helicopter training at Fort Rucker, Alabama.

General support helicopters: The Secretary of the Army, assisted by the other service Secretaries, will report findings on consolidating general support helicopter functions within geographic areas.

Adaptive force packages: The Chairman will prepare findings on the Adaptive Joint Force Package concept to provide Commander in Chiefs of regional commands with tailored joint force packages to achieve more effective overseas presence.

Marine Corps general support artillery: The Chairman and the Secretary of the Navy will report on long-term general support artillery requirements for the Marine Corps. Analysis will include in-depth cost and operational effectiveness assessment of purchasing rocket-launched artillery for the Marine Corps. Consideration will also be given to having the Army provide all rocket-launched artillery support to the Marine Corps.

Theater air defense: The Chairman, assisted by the service Secretaries, will conduct a joint mission area analysis of theater air defense requirements. The analysis will focus on determining the proper mix of air and missile defense systems. Results will identify theater air defense requirements, capabilities, and deficiencies.

Training and test and evaluation facilities: The Office of the Secretary of Defense, assisted by the service Secretaries, will streamline the test and evaluation infrastructure to achieve management efficiencies by integrating the activities of independent facilities and possibly linking continental U.S. test and evaluation ranges within geographic areas. Consideration should be given to designating a lead service for test and evaluation of certain classes of systems. The Chairman, assisted by the Office of the Secretary of Defense, will examine the feasibility of electronically linking service training ranges in the continental United States.

Construction engineers: DOD will evaluate possible consolidation of installation support activities in such areas as environmental services, contract administration, engineering design, facility standards, technical guidance, processes and forms, civil engineering research and development, and automated management systems.

Initial skills training: The Chairman, assisted by the Office of the Secretary of Defense and the service Secretaries, will evaluate additional consolidations in initial skills training across and within all services. When consolidations are not appropriate, consideration should be given to collocating service training facilities to achieve savings.

Chaplain and legal corps: The Office of the Secretary of Defense and the service Secretaries will evaluate possible consolidation of follow-on training activities for military chaplains and lawyers.

Intelligence: The Defense Intelligence Agency will complete the ongoing study exploring consolidation of intelligence production centers under a joint intelligence organization. The Agency will explore other options to consolidate intelligence functions at the department level, while preserving separate Service intelligence branches.

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## **No Immediate Action**

The Secretary accepted the Chairman's recommendations to make no change in three functional areas. He did decide, however, to continue to review these functions in the context of potential changes to strategy and force structure resulting from DOD's bottom-up review.

Tactical airlift/tankers: No reductions are recommended in C-130 aircraft since the aggregate capabilities are still necessary. Little or no savings would result from consolidation into a single service.

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**Appendix I  
Secretary of Defense's Decisions on the  
Chairman of the Joint Chiefs of Staff's  
Recommendations**

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Electronic jammer aircraft: No reductions are recommended in EF-111 or EA-6B electronic jamming aircraft, since the aggregate capabilities are still necessary and the two aircraft operate in complementary fashion. Operations, basing, training, and logistic support will be consolidated where possible. The Joint Requirements Oversight Council will determine upgrade requirements.

Electronic surveillance aircraft: No reductions are recommended in Air Force RC-135 and Navy EP-3E electronic surveillance aircraft because the aggregate capabilities are still necessary and the two aircraft operate in complementary fashion.

# Our Evaluations of Selected Areas

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## Theater Air Interdiction

Theater air interdiction describes air operations intended to attack enemy forces deep within their own territory before they can engage U.S. forces. Land-based and sea-based attack aircraft, long-range bombers, cruise missiles, and surface-to-surface missiles conduct interdiction.

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## Chairman's Report

The present and planned interdiction aircraft considered in the report are Air Force B-1B, B-2, and B-52 bombers and F-15E, F-16, F-111, and F-117A fighter/attack aircraft; Navy A-6, F/A-18C/D, and F/A-18E/F attack aircraft and A/F-X medium bombers; and Marine Corps F/A-18C/D fighter/attack planes.

The report recommended that sufficient numbers of land- and sea-based bomber and attack aircraft be forward deployed or rapidly deployable and that strategic bombers be made available to support theater air interdiction. Theater air interdiction aircraft requirements, therefore, should consider the contributions of both bomber and attack aircraft.

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## Our Assessment

The Chairman's report addressed the future course of the theater air interdiction mission with regard to threat and technology, but the issue of duplication of systems was not examined. Certain systems were not included in the analysis, specific weapon system force levels were not identified, and the full impact of reduced threat and budget constraints was not considered.

## Shortfalls in Joint Staff Methodology

The report focused on fixed-wing aircraft and did not fully acknowledge other interdiction capabilities. For example, cruise and surface-to-surface missiles were used for interdiction missions in the Gulf War. Nearly 300 Navy Tomahawk cruise missiles were fired from surface ships and submarines. The Army Tactical Missile System was used 32 times, often at ranges of over 100 kilometers. The Joint Staff told us cruise and surface-to-surface missiles are not true interdiction weapons because of their limited ability to strike moving targets. This discounts the large number of fixed targets—buildings, bunkers, bridges, depots, airstrips, rail lines, and radar sites—that were attacked in the Gulf War. The Navy has argued that the Tomahawk gives them a strike capability against targets on over three-fourths of the world's land mass. The Army Tactical Missile System allows the Army to engage targets at greater distances than previously possible.

The Air Force A-10 and Marine AV-8B, considered close air support aircraft, were not included in the study. However, according to DOD data, 79 percent of A-10 and 52 percent of AV-8B sorties flown during the Gulf War were for interdiction missions. Similarly, the Army's Comanche helicopter program was not considered. If it meets its performance goals, the Comanche—with an engagement area of over 300 miles and a maximum payload of 14 Hellfire missiles—will be capable of interdicting enemy forces.

The aircraft the Joint Staff included in its interdiction analysis provided what the Chairman called, "unique but complementary" capabilities that serve to "... complicate an enemy's air defense planning." Secretary of Defense Aspin has stated that multi-service duplication can be a positive force. Still, the Joint Staff has not performed a joint mission area analysis to ensure that all current and planned interdiction systems complement each other without providing unneeded duplication.

The Joint Staff study group said it analyzed the effect equipping bombers with precision guided munitions could have on attack aircraft requirements. They also looked at basing and deployment alternatives and the effectiveness of stealth aircraft for interdiction missions. We requested their analysis, but it was not made available to us. We are examining, however, the experience of the Tomahawk in the Gulf War to see if it can have an effect on aircraft requirements.

The Senate Committee on Armed Services directed the Chairman to include in his report an analysis of the roles and missions of land- and sea-based bomber and attack aircraft. The Joint Staff study group did not try to identify the optimum mix of bomber/attack or land-/sea-based aircraft. Study group members told us any mix would be scenario specific and could not be generalized. They said it was clear that a mix was needed since the world is mostly covered by water and U.S. military strategy calls for "overwhelming" an enemy with a variety of capabilities.

#### Affordability Was Not Considered

The report stated that reductions in cold war threats have allowed reductions or eliminations of programs designed to counter those threats. It also recognized that the acquisition plan for major aviation programs requires more resources than will likely be available. However, there were no recommendations to reduce or eliminate specific interdiction systems. There are plans or programs for either developing, upgrading, or procuring each type of aircraft included in the study group's universe.

The issue of affordability has been addressed separately by DOD. The Office of the Secretary of Defense conducted an affordability study to include the procurement of current aircraft, upgrades to current aircraft, and the procurement of the F-22, F/A-18E/F, A/F-X, and EA/F-X aircraft. DOD's bottom-up review is also expected to examine tactical aircraft requirements.

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## **Issues Warranting Further Consideration**

We believe that all assets with interdiction capabilities—bomber and attack, carrier- and land-based aircraft, and cruise and surface-to-surface missiles fired from land and sea—should be considered when calculating requirements and assessing capabilities for theater air interdiction. We have made observations of this nature for other mission areas.<sup>1</sup> A joint mission area analysis is a vehicle for addressing the issues of weapon mixes and quantities while accounting for cost. While each class of weapons is not interchangeable in terms of speed, range, payload, flexibility, and lethality, each can perform interdiction. The fact that a system was not created primarily for a specific mission should not exclude it from consideration. In its White paper, *Global Reach, Global Power*, the Air Force states, "It is the effects—not the systems—that matter," and adds, "True jointness is using the right tools at the right time."

DOD, in commenting on a draft of this report, did not concur with our position, stating that (1) cruise and surface-to-surface missiles were excluded from the Joint Staff analysis purposely as the analysis was of theater air interdiction, not interdiction; (2) our position—that all assets should be considered when calculating requirements for theater air interdiction—is a planning, programming, and budgeting issue, not a roles and missions issue; and (3) a joint mission area analysis might be useful, but force structure change was not the intention of the Chairman's report.

We maintain our position that all assets capable of interdicting enemy forces should be considered when examining the potential for reducing unnecessary duplication. The presence, or absence, of cruise and surface-to-surface missiles, as well as attack helicopters, could affect attack and bomber aircraft requirements. The weapons available to a service ultimately influence the roles and functions it is able to perform.

In its comments DOD also pointed out that the Joint Staff's analysis of air interdiction focused on whether bombers freed from cold war missions

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<sup>1</sup>Major Acquisitions: DOD's Process Does Not Ensure Proper Weapons Mix for Close Support Mission (GAO/NSIAD-92-180, Apr. 17, 1992).

could perform air interdiction, what capabilities and modifications would be needed for the bombers, and what impact this would have on the mixture of aircraft in a given strike package. In our opinion, answers to other questions are equally important in arriving at a decision regarding such use of bombers. These questions, some of which we have raised in recent reports<sup>2</sup> include the following: (1) Does Desert Storm experience suggest that bombers should be used in this mission?, (2) Are expensive modifications justified by the bombers' expected contributions?, and (3) Can the use of bombers in air interdiction reduce the number of attack aircraft that also perform that function?

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## Close Air Support

The Key West Agreement of 1948 defined close air support as "air action against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces." The agreement directed the Air Force to furnish close air support to the Army, the Navy to provide it for the conduct of joint amphibious operations, and the Navy and the Marine Corps to provide it for land operations as a collateral function.

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## Chairman's Report

The Chairman's study reevaluated the definition of close air support in view of recent improvements in attack helicopter capabilities. The report concluded that attack helicopters can provide timely and accurate close air support for ground forces and should be formally recognized as close air support assets. It recommended assigning all four services a primary role in close air support, adjusting doctrine, and standardizing operational procedures.

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## Our Assessment

The Joint Staff study included an examination of options for reducing the existing duplication of close air support roles among the services; however, these options were not discussed in the Chairman's report. The report did not address the potential contributions of other weapon systems in providing close-in fire support, nor did it address whether current close air support systems can be made survivable on modern battlefields or whether plans to modernize the close air support capabilities of each of the four military services are warranted.

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<sup>2</sup>Strategic Bombers: Adding Conventional Capabilities Will Be Complex, Time-Consuming, and Costly (GAO/NSIAD-93-46, Feb. 6, 1993) and Operation Desert Storm: Limits on the Role and Performance of B-52 Bombers in Conventional Conflicts (GAO/NSIAD-93-138, May 12, 1993).

The close air support study group included representatives of all four services and the Joint Staff. The Joint Staff representative gave the study group an initial concept paper that outlined four alternatives. These alternatives were (1) maintain the status quo (i.e., the Air Force retains responsibility for close air support to the Army; no change to Navy/Marine Corps close air support roles and functions); (2) redefine close air support as being conducted by fixed-wing aircraft only; (3) redefine close air support as being conducted by fixed-wing and rotary-wing aircraft; and (4) transfer responsibility for close air support operations on land from the Air Force to the Army along with the existing A-10 fleet; no change to Navy/Marine Corps close air support responsibilities for amphibious operations.

The study group was unable to reach a consensus or recommendation within the short time frame the Joint Staff allowed for the study. However, the views of the members were provided to the Director, Joint Staff. According to the leader of the study group, the Director then told him to draft a section for the report reflecting the Chairman's view that helicopters should be recognized as close air support assets and the Army and the Marine Corps should be assigned responsibility for rotary-wing close air support, thereby supplementing Air Force, Navy, and Marine fixed-wing responsibilities. Although they did not oppose the Chairman's recommendations, the Army and the Marine Corps expressed concern that redefining attack helicopters as close air support systems may result in a shift of control of these assets from ground commanders to a Joint Air Component Commander, whose priorities and doctrinal thinking may differ from their own.

The Chairman's report leaves in place significant close air support capabilities in all four military services, although the quantity of aircraft is likely to decline as the overall force structure is reduced. The Joint Staff did not analyze in detail the relative contributions of fixed- and rotary-wing close air support assets for meeting overall mission requirements. For example, it did not address whether the Army's Apache helicopter reduces the need for fixed-wing aircraft to be dedicated and modified for the close air support role. It also did not evaluate whether the services' close air support functions could be specialized, thereby enabling the services to scale back plans to develop costly and redundant close air support systems. Over the next 5 years, the Army has budgeted about \$5.1 billion to modernize its fleet of Apache attack helicopters and to develop the Comanche helicopter. Marine Corps upgrades of AV-8B, F/A-18, and AH-1 aircraft are estimated to cost about \$6 billion during the



same period. In addition, through fiscal year 2003, DOD plans to spend \$3.2 billion to improve the close air support capabilities of Air Force A-10 and F-16 aircraft. Joint Staff officials said they did not address force structure, modernization, and affordability issues, because these issues should be addressed in DOD's planning, programming, and budgeting process, not as part of the Chairman's review of roles and functions.

The close air support study group also did not examine the potential contributions of other weapon systems that provide fire support and the extent to which they might reduce overall close air support requirements. Improvements in artillery and better integration of other weather-independent weapons, such as the Multiple Launch Rocket System and the Army Tactical Missile System, may provide ground soldiers more responsive and flexible close-in support than aircraft, which may be limited by weather and air defenses.

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## Issues Warranting Further Consideration

Trade-offs must be made between force structure alternatives and competing weapon systems to determine the most cost-effective mix of close support weapons needed to support ground combat forces, without unnecessary duplication. Such an analysis should fully consider the capabilities of all fire support weapons and aircraft that are capable of providing close support, as well as their vulnerability and survivability.

In commenting on a draft of this report, DOD noted that the Chairman, recognizing the emergence of new technologies in attack helicopters, recommended that these rotary aircraft be considered close air support assets. Our report acknowledges this. However, we believe the debate on close air support roles and functions, as well as examinations intended to identify unnecessary duplication, cannot be completely isolated from a discussion of capabilities. In an era of declining defense resources, the assignment of roles and functions should be influenced by an analysis of the capabilities and vulnerabilities of all close-in fire support systems. Such an analysis would include a discussion of an appropriate mix of capabilities and their affordability.

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## Marine Corps Tactical Air

Marine tactical aircraft perform four tasks—offensive air support (including interdiction and close air support), antiair warfare, electronic warfare, and reconnaissance—all of which have as their primary purpose the support and protection of Marines on the ground. In an expeditionary operation, once airfields are established ashore, most of the Marines'

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supporting firepower would be provided by Marine fixed- and rotary-wing aircraft. Marine aircraft are carrier-capable and share with Navy aircraft a common procurement system and common maintenance training.

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### Chairman's Report

The Chairman's report stated that Marine tactical aircraft are an integral part of the Marine air-ground team and should not be eliminated. Marine tactical aircraft will be reduced from nine types of fixed-wing aircraft to four (AV-8Bs, F/A-18A/Cs, F/A-18Ds, and EA-6Bs) and will deploy more frequently aboard carriers.

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### Our Assessment

The working group on Marine aviation issues focused its efforts on assessing whether the Navy could take over all fixed-wing tactical aircraft functions from the Marines without seriously affecting the Marines' combat effectiveness. According to the working group leader, Navy and Marine representatives on the working group could not agree on this issue. The Marine Corps believes it needs to maintain both fixed-wing and rotary-wing tactical aircraft to support an integrated air-land task force concept—a key tenet of Marine Corps doctrine and training. The Marine Corps has also expressed concern that stationing Marine fixed-wing aircraft on Navy carriers rather than on land, or complete reliance on Navy tactical aircraft, could reduce sortie generation rates to an unacceptable level and could divert these aircraft to other missions—such as protection of the carrier battle group—to the detriment of Marine ground forces. In contrast, representatives of the other services disagreed that Marine pilots are better trained to support ground forces than Navy or Air Force pilots. Joint Staff representatives said that, given the lack of consensus, the report's conclusions reflected the Chairman's view that the Marine Corps has done a better job of integrating air and ground components than the other military services and, therefore, should retain both fixed-wing and rotary-wing assets.

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### Issues Warranting Further Attention

The Chairman's study did not include a detailed analysis comparing the Marine Corps' approach for providing close air support, in which both fixed-wing and rotary-wing aircraft are owned and operated by the same service, with the Army-Air Force approach, whereby one service contributes rotary-wing assets while the other provides fixed-wing aircraft capabilities. A more extensive evaluation of factors such as differences in Marine and Army-Air Force training could determine which concept works

better. The evaluation could also determine whether benefits would accrue by using one approach to close air support throughout the military.

In commenting on a draft of this report, DOD said our assessment did not recognize that the Army-Air Force approach to providing air support to ground forces differs from that of the Marine Corps because of the different roles the services fulfill and the different operating environments in which those roles are carried out. We believe that, while the law differentiates the basic roles of the Army and Marine Corps, both services have been used in similar situations interchangeably during the Vietnam War, the Gulf War, and most recently, in Somalia. We believe that, even when operating under dissimilar tactical conditions, the ground forces of both services have one common need—reliable, effective close-in fire support. How or by whom this support is delivered should not be a concern.

It is worth noting that one of the alternatives considered by the Joint Staff's close air support working group was adopting the Marine Corps approach (one service owns and operates both the fixed- and rotary-wing aircraft) for supporting Army ground forces. Further, in its comments on our draft report, DOD recognized that the Air Force could be tasked to provide close air support for Marine amphibious operations.

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## Contingency and Expeditionary Forces

Contingency and expeditionary forces are light forces used to respond to crises involving land combat. These forces exist in the Army and the Marine Corps. Planned active duty Army light and Marine Corps operating forces for fiscal year 1997 total about 170,000, including 3 Marine divisions, 4 Army divisions, and separate Army units—brigade-size and smaller—that are equivalent to 1 additional division.

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## Chairman's Report

The Chairman recommended retention of contingency and expeditionary forces in both services. He also recommended continuing the review of Army light infantry force requirements to determine whether they can be reduced. The report concluded that similarities in Army and Marine Corps capabilities are intentional yet limited. It noted that the reason the two services have similar responsibilities for certain land operations is their unique, yet complementary, capabilities that span both deployment and employment characteristics.

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**Our Assessment**

We believe that while there may be a need to retain contingency and expeditionary forces in both the Army and the Marine Corps, the planned numbers of light forces under the Base Force option may be greater than what is needed to cope with future threats. According to Joint Staff officials, the working group evaluating these forces focused on whether contingency and expeditionary forces were needed but not the appropriate level of such forces.

Army and Marine Corps contingency forces each have unique capabilities, but most are expected to deploy and operate in a similar manner. Their uniqueness relates mainly to the manner in which they would forcibly enter hostile territory—soldiers by parachute and Marines by amphibious means. However, only one Army division and about one-third of Marine forces are expected to deploy in this manner. Remaining contingency forces arrive at their destination in a similar manner (moving by air to secured airfields), provide essentially the same ground combat capability, and may be assigned similar objectives when engaged in land operations.

Except for the Korean and Vietnam Wars, the number of contingency forces employed since World War II has been substantially less than the number maintained in the force structure. About 23,000 troops, or about 1.5 division-equivalents, were used in the Dominican Republic and Panama, the largest of these operations.

In the Gulf War, the Army deployed two light divisions and the Marine Corps about 1-2/3 ground division-equivalents. These deployed light forces are significantly fewer than the eight division-equivalents DOD is proposing for fiscal year 1997. If the U.S. military undertook another deployment the size of Operation Desert Storm at planned 1997 force levels, then active light forces available for other missions would total approximately 4-1/3 active ground division-equivalents. Recent experience suggests that the level of forces remaining in 1997 after a Gulf-type deployment would be sufficient to respond to additional lower intensity crises.

Our analysis indicates that even if another Desert Storm equivalent deployment of light forces were to occur, sufficient forces would remain available to maintain a forward presence in other areas of the world and to simultaneously conduct at least two operations equivalent in size to the Panama operation. Two concurrent deployments the size of the Panama operation would require about three division-equivalents, still leaving over 1-1/3 division-equivalents for other purposes.

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## Issues Warranting Further Consideration

The trend in the Army and the Marine Corps toward developing similar combat capability and the apparent excess in light forces suggest the need to reassess how much similar capability is desirable. Consequently, the review of Army light infantry requirements recommended in the Chairman's report may need to be broadened to include all contingency and expeditionary forces.

In commenting on a draft of this report, DOD said this was a programmatic issue that would be considered in the context of overall resource allocations. It did not address our point that the review of Army light infantry requirements may need to be expanded to include all contingency and expeditionary forces.

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## Nuclear Forces

Since the early 1960s, the United States has relied on a triad of strategic offensive forces, consisting of land-based intercontinental ballistic missiles, sea-based submarine launched ballistic missiles, and strategic manned bombers to provide a deterrence to a Soviet nuclear attack. This strategic triad was supplemented by tactical nuclear forces.

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## Chairman's Report

The Chairman's report discussed how the end of the cold war led to a reassessment of the Unified Command Plan that resulted in consolidation of all strategic nuclear weapons under the U.S. Strategic Command and in removal of all tactical nuclear functions and weapons from the Army and the Marine Corps. The Strategic Arms Reduction Treaties I and II, when ratified and implemented, will reduce U.S. strategic weapons to fewer than 3,500 nuclear warheads, restrict the number of warheads on remaining land-based ballistic missiles, and reduce sea-based ballistic missile warheads by half. During congressional hearings, the Chairman testified that the United States must retain the current nuclear triad so that no other nuclear state sees an opportunity to gain a nuclear advantage over the United States.

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## Our Assessment

The form and content of the future U.S. strategic force structure is uncertain at this time and warrants the continued discussion and examination by the Congress and the executive branch. We have done a considerable amount of work in this area. Over the years, we have reviewed each of the strategic nuclear systems on an individual basis. Also, in April 1990, the House Committee on Foreign Affairs requested us to assess the strengths and weaknesses of the weapon systems and major

proposed strategic modernization programs for all three legs of the triad and to determine which systems and upgrades were the most cost-effective. During our 2-year review, we compared the main current and proposed strategic programs using our estimated 30-year life cycle costs and seven measures of effectiveness: survivability; weapon system accuracy, range, and payload; warhead yield and reliability; weapon system reliability; flexibility across a number of dimensions, including recallability, retargeting, and impact on arms control; communications; and responsiveness.

A general conclusion from our numerous comparisons, which are discussed in a series of classified reports and summarized in congressional testimony,<sup>3</sup> is that there are systematic disparities between the claims that have been made about the triad systems and what the data actually show. These disparities relate to estimates of the size and capabilities of enemy threats, the performance of the U.S. systems, the adequacy of testing of the systems, and the costs associated with the systems. Another conclusion was that, on balance, the sea-leg of the triad was the least vulnerable and most cost-effective. All of these issues must be considered when deciding the future structure of U.S. nuclear forces.

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### Issues Warranting Further Consideration

A great deal of effort has gone into analyzing the capabilities and requirements of strategic forces, but no current analysis provides a definitive answer as to how much is enough and which weapons should be procured to provide for deterrence in the future. The global national security environment has changed tremendously since we conducted the assessment requested by the Congress. When we began that assessment, the former Soviet Union was the chief threat to U.S. security and the Strategic Arms Reduction Treaty accords were still being negotiated. The demise of the Soviet threat and the signing of the treaties signal changes in the threat that strongly suggest that the need for the nuclear triad, as currently comprised, must be reevaluated.

In commenting on a draft of this report, DOD said it believes it is necessary to maintain a triad of nuclear forces to hedge against both uncertainty in the former Soviet states and the risk of nuclear proliferation elsewhere. It did not provide any further explanation of its position. We continue to believe that there is a need to reevaluate the capabilities required of the weapon systems that comprise the nuclear triad.

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<sup>3</sup>The U.S. Nuclear Triad: GAO's Evaluation of the Strategic Modernization Program (GAO/T-PEMD-93-5, June 10, 1993).

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## Forward Presence

Forward presence is a fundamental element of our defense strategy. The United States has traditionally maintained a forward presence through deployment of significant military forces in Europe, Asia and the Pacific, and at sea. While reducing its forward-deployed forces, the United States is achieving presence abroad through combined exercises, new access and storage agreements, security and humanitarian assistance, port visits, military-to-military contacts, and periodic and rotational deployments.

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## Chairman's Report

The Chairman recommended continued development of the concept of adaptive joint force packages that seek to achieve a more effective force presence by providing regional commander in chiefs with forces tailored to their geographic and mission needs. According to the report, the United States is bringing troops home as fast as possible while continuing to maintain a forward presence that protects U.S. vital interests, enhances stability, and reassures U.S. allies. The potential exists for significant savings as a result of overseas base closures. More than 500 facilities have been identified for either consolidation or return to host nations.

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## Our Assessment

There has been a significant withdrawal of forward deployed ground troops, primarily in Europe, and plans are to continue this for several years. The Chairman's report cited examples of base consolidations and other efforts that will lower the costs of maintaining a forward presence. However, the report did not address options for reducing the cost of maintaining forward presence with aircraft carrier battle groups.

Overseas naval presence in major world regions—Mediterranean Sea, western Pacific Ocean/Arabian Sea—has primarily been met by carrier battle groups. The Navy's carrier fleet includes 7 nuclear-powered and 6 conventional-powered ships. Current Navy plans are to continue to build nuclear-powered carriers as it retires its older conventional carriers. This recognizes the advantages of nuclear power, which include greater operational capabilities and superior strategic and tactical mobility.

These carrier battle groups are extremely expensive to acquire and operate, especially considering the significant costs for the carrier's associated aircraft. We recently suggested that other less costly noncarrier options, such as relying more on groups comprised of increasingly capable surface combatants and amphibious assault ships, to meet some of the overseas presence and crisis response requirements traditionally met by

carriers.<sup>4</sup> Increased use of such groups could reduce carrier requirements, yet provide a viable and affordable naval force structure to support a regionally oriented national defense strategy.

Independently deployed groups centered around a cruiser, destroyer, or amphibious assault ship could alternate with carrier battle group deployments to maintain significant levels of forward presence in the three major regions. For example, the following alternate mixes of carrier battle groups and surface action groups<sup>5</sup> could provide a near continuous naval presence in the regions but at a significantly less cost than a force comprised only of carrier battle groups. Even as the number of aircraft carriers declines in these mixes, carriers could continue to provide a substantial portion of the overall presence in the regions.

**Table II.1: Comparison of Annualized Costs of Carrier Battle Group and Surface Action Group Force Mixes**

Dollars in millions				
Carrier battle groups		Surface action groups		Total cost of forces
Number	Cost	Number	Cost	
12	\$16,634	2	\$ 582	\$17,216
10	13,756	4	1,164	14,920
8	10,879	6	1,745	12,624
6	8,001	8	2,327	10,328

We believe increased reliance on these other naval force configurations to provide forward presence is possible because of the increased capabilities of the ships and weapon systems that comprise these alternative groups. Surface combatants now entering the fleet are gaining capability in strike, anti-air, anti-surface, and anti-submarine warfare that makes them increasingly suitable for regional contingencies. The most significant changes in surface combatant capability have been the additions of the Tomahawk cruise missile, Vertical Launching System, and AEGIS anti-air weapon system.

The Tomahawk missile, for example, has greatly enhanced the Navy's strike capabilities. Tomahawk anti-ship and land attack cruise missiles provide a significant long-range capability against tactical or strategic land- and sea-based targets while reducing the risks of endangering personnel and expensive equipment. With a land-attack capability of more

<sup>4</sup>Navy Carrier Battle Groups: The Structure and Affordability of the Future Force (GAO/NSIAD-93-74, Feb. 25, 1993).

<sup>5</sup>An illustrative surface action group consists of a cruiser, two destroyers, a frigate, and an attack submarine.



than 650 miles, the Tomahawk has enough range to reach over three-fourths of the world's land areas. Its capabilities were demonstrated when about 300 were launched from surface combatants, battleships, and attack submarines during Operation Desert Storm. Ongoing and planned improvements will further enhance Tomahawk's operational and strike capabilities.

In addition to enhanced weapon capabilities, new multipurpose amphibious assault ships are expanding the flexibility of amphibious forces in providing a naval presence and a crisis response capability. These ships can provide a limited, but effective, strike capability with Harrier vertical/short takeoff and landing aircraft and armed helicopters and expanded command and control facilities. Further, attack submarines in these alternative groups provide protection, intelligence gathering, surveillance, and additional strike (Tomahawk) capabilities.

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## Issues Warranting Further Consideration

As stated in our carrier battle group report, we believe it is essential that the Congress and DOD reach an early agreement on the size and affordability of the carrier force needed to meet future national defense requirements. We further believe that in the context of such an agreement, the Congress should consider the extent that other, less costly force presence options could satisfy many national security needs and reduce the requirements for carrier battle groups before approving full funding for the new nuclear carrier in the planned fiscal year 1995 request.

In commenting on drafts of our carrier report and this report, DOD stated that our assessment did not provide an evaluation of current operating tempos of carrier forces generated by combatant commander requirements or of the significant capability reductions and increased risks of deploying a cruiser in lieu of a carrier. Our alternatives do not diminish the important contributions provided by a carrier during major crises or war. However, the options we present are intended to raise the question of whether all carrier battle groups, as currently envisioned, will be necessary to provide a credible peacetime presence and an effective crisis response in overseas regions. We do not propose the answer to the question, but maintain it must be addressed.

We recognize that there are increased risks associated with alternative naval forces compared with those of battle groups as the seriousness of the threat increases. However, carrier battle groups place considerable strain on naval resources. Although alternative naval forces—consisting of

cruisers, destroyers, and/or amphibious ships—lack the multidimensional air capabilities provided by a carrier, they do possess considerable offensive and defensive capabilities to counter air, surface, and undersea threats. The Navy's current maritime strategy recognizes that a shift to a regional, littoral, and expeditionary focus requires greater flexibility and new ways of employing its forces. The strategy recognizes that the response to every situation may not be a carrier battle group, but rather other naval forces, such as an amphibious readiness group and a surface action group with Tomahawk cruise missiles, or a joint or combined force. It also acknowledges that these forces can be moved—shared between unified commands—across theater boundaries, as necessary, to forestall or respond to crises. We believe that interchanging deployments of alternative naval forces and carrier battle groups merits consideration in the new security environment.

DOD also said there was no discussion of the joint aspects of forward deployments and how one service's forces could complement or partly replace the forces of another. Regarding this point, it is important to note that the alternative naval forces we cite could receive air support from ground-based tactical aircraft based at overseas and U.S. bases and thus could require less carrier support. Additionally, joint U.S. and allied military forces could augment surface action groups and provide support.

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## Strategic Mobility

In the event of a conflict or crisis overseas, DOD relies primarily on cargo ships, transport aircraft, and prepositioned assets—strategic mobility—to deliver people, equipment, and supplies. Land prepositioning has been estimated to cost one-fourth as much as prepositioning ships. However, because of the reluctance of some of our Southwest Asia allies to accept land prepositioned combat equipment and the increased flexibility afloat prepositioning would provide for other theaters, DOD has adopted the more costly alternative of afloat prepositioning.

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## Chairman's Report

The Chairman's report did not make any recommendations in strategic lift. It stated that the Mobility Requirements Study, issued in January 1992, establishes the framework for current and future lift initiatives. The study's recommendations include continuing the planned C-17 aircraft program, adding 20 new fast sealift ships and 2 leased container ships, and enhancing and expanding the Ready Reserve Fleet. According to the study, this mobility plan, if implemented, would give the United States the

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capability to deliver the equivalent of 4-2/3 Army divisions to the Middle East in about 8 weeks.

The Requirements Study includes a plan to preposition Army combat unit equipment on ships for the first time. If fully implemented, this expansion would increase the number of Army prepositioning ships from 4 to 15. These ships are included in the recommended additional sealift program, estimated to cost about \$5.4 billion through 1997. DOD has started designing these ships.

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## Our Assessment

The Mobility Requirements Study did not address the possibility of making greater use of the Marine Corps' three maritime prepositioning squadrons as a substitute for some or all of the recommended Army afloat prepositioned assets. This may be one consequence of allowing overlaps between the Army and Marine Corps contingency and expeditionary forces. Greater use was made of these Marine Corps squadrons in the Gulf War than in the study's Middle East scenario. Making greater use of Marine Corps prepositioning squadrons may decrease the need to purchase some of the new ships the study recommends for prepositioning Army combat unit equipment.

The Marine Corps squadrons are located at three sites around the world. Each squadron's ships provide enough ground combat equipment, combat support equipment, and supplies to sustain a marine expeditionary brigade of about 16,500 personnel for 30 days. The ships are configured to provide capability for driving vehicles on and off, storage for containerized and loose cargo, and tanks for fuel and water. Each of the prepositioning squadrons contains essentially the same types and amounts of items. The first squadron (four ships) is normally anchored off the U.S. east coast. The second squadron (five smaller ships) is located at Diego Garcia in the Indian Ocean, near southwest Asia. The third squadron (four ships) is located at Guam and Tinian in the western Pacific Ocean.

The Marine Corps has proposed that the combat power of its prepositioning squadrons be enhanced. The proposal, offered as a cost-effective alternative to the study's recommendation to preposition Army combat unit equipment afloat, would add one ship to each maritime prepositioning squadron to provide additional tanks and airfield equipment. An alternative approach would be to add a single new ship to the squadron at Diego Garcia. Another alternative would be to reposition

the Atlantic squadron, from time to time, closer to southern Europe or the Middle East, possibly cutting days off its potential response time.

We recently issued three reports concerning the Requirements Study. Two of the reports are classified, focusing on the study's airlift and sealift assumptions. The third report, which provides our overall assessment of the study's key assumptions, is unclassified.<sup>6</sup>

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### Issues Warranting Further Consideration

In our April 1993 report, we recommended that additional analysis be conducted to determine the impact of alternative assumptions on the Requirements Study's conclusions and recommendations. One alternative assumption we suggested was that to make greater use of existing Marine Corps prepositioning squadrons could reduce the need for some of the new Army afloat prepositioned ships the Mobility Requirements Study recommends. DOD, in commenting on our April report, disagreed with our recommendation, saying the assumptions used in the Requirements Study were consistent with national policy on sealift. It said that further analysis based on assumptions we proposed would not change afloat prepositioning requirements. We continue to believe that the alternative of making greater use of Marine Corps squadrons is a realistic assumption considering the experience of the Gulf War.

DOD, in commenting on a draft of this report, said it does not believe that the Chairman's report should have addressed the potential overlap in future roles and missions if the Army prepositions combat unit equipment aboard ships as was recommended in the Mobility Requirements Study. Nonetheless, DOD said that greater use of existing Marine Corps prepositioning ship squadrons, as currently structured and home ported, would not reduce the need for Army prepositioning or for ships to deliver two Army heavy reinforcing divisions to a combat zone in about 4 weeks.

We agree that greater use of Marine Corps prepositioning squadrons, as currently structured and home ported, would not reduce the need for the Army prepositioned combat unit equipment recommended in the mobility study. However, we note above that the Marine Corps has proposed several options that would enhance the capability of the Maritime Prepositioning Force. One proposal is to add 1 ship, 28 tanks, and an expeditionary airfield to each of the 3 existing squadrons to improve firepower and flexibility. A second proposal is for the Marine Corps'

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<sup>6</sup>DOD's Mobility Requirements: Alternative Assumptions Could Affect Recommended Acquisition Plan (GAO/NSIAD-93-103, Apr. 22, 1993).

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Atlantic squadron to begin moving toward the Middle East during the warning phase of a future conflict, cutting more than a week from its response time. A third proposal is to preposition a single ship, loaded with 56 additional tanks and an expeditionary airfield, in Diego Garcia. Our report did not suggest that greater use of existing Marine Corps prepositioning squadrons would decrease DOD's asserted need to deploy Army heavy reinforcing divisions from the United States.

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## Reserve Forces

Reserves are those members of the military services who are not in active service but who are subject to call to active duty. Reserve components include the Army National Guard, Army Reserve, Naval Reserve, Marine Corps Reserve, Air National Guard, Air Force Reserve, and Coast Guard Reserve.

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## Chairman's Report

The report recommended that DOD determine the proper active and reserve force mix to meet future military missions as part of its ongoing analysis of a legislatively mandated RAND Corporation study submitted to DOD and the Congress in December 1992.<sup>7</sup> This study defined a range of possible active and reserve force mixes appropriate for the mid- to late-1990s and suggested an array of initiatives to improve the training, readiness, and early deployability of reserve ground combat forces. In March 1993, DOD notified the Congress that it would address the responsibilities of the active and reserve components to meet military strategy requirements in the Secretary's ongoing bottom-up defense review.

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## Our Assessment

The December 1992 RAND report provided several alternative force structures for the services and compared them on the basis of their military capability, ability to meet projected time lines for deployment, and ability to provide training for later mobilized reserve forces. RAND concluded that, for almost every option, combat reserves could not be readied quickly enough to participate early in a major regional contingency. Concluding that early participation of reserve combat forces is important to ensure that the commitment of forces represents the political will of the people, RAND identified possible changes in the missions, training practices, and organizational structures to improve the readiness and earlier deployability of these forces.

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<sup>7</sup>Assessing the Structure and Mix of Future Active and Reserve Forces: Final Report to the Secretary of Defense, National Defense Research Institute, RAND, December 1992.

Our work, like RAND's, has focused primarily on the Army, since that is where the major readiness problems have manifested themselves. Like RAND, our work has demonstrated the need for major improvements to reserve readiness if combat reserves are to be used in anything less than a protracted conflict. Our suggested changes have been to restructure some reserve combat forces into smaller battalion- or company-sized units that could be readied more quickly to deploy, increase the involvement of active duty personnel in reserve units, and improve the match between reserve unit assignments and the skills gained on active duty or in their civilian occupations.<sup>8</sup>

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### Issues Warranting Further Consideration

The extensive use of reserve support forces in the Gulf War demonstrated that a substantial commitment of reserve support units could test public support for a war effort just as easily as a commitment of reserve combat forces. Accordingly, we recommended that the Army consider replacing some active support forces with reserves in its contingency force because they demonstrated in the Gulf War that they could fill these roles and could be readied to deploy within required time frames.<sup>9</sup> We also recommended that the Army consider converting some late deploying reserve combat forces to support forces to rectify existing support force shortfalls. For example, our work showed that the Army nearly exhausted its supply of some types of support units in the Gulf War even though it deployed only a quarter of its combat divisions.<sup>10</sup> Under current plans, less than 10 percent of the Army's reserves—all support forces—would likely participate in the first 75 days of a conflict. Almost all combat reserves would serve only in a protracted conflict. Increasing the number of reserve support forces would permit more extensive and earlier use of less costly reserves while achieving the objective of testing public support for a war effort. In commenting on the recommendations in our December 1992 report, DOD said the Army was analyzing its current composition of combat and support forces and the merits of converting late deploying reserve combat forces to support forces.

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<sup>8</sup>For example, see National Guard: Peacetime Training Did Not Adequately Prepare Combat Brigades for Gulf War (NSIAD-91-263, Sept. 24, 1991); Army Training: Replacement Brigades Were More Proficient than Guard Roundout Brigades (NSIAD-93-4, Nov. 4, 1992); and Army Reserve Forces: Applying Features of Other Countries' Reserves Could Provide Benefits (NSIAD-91-230, Aug. 30, 1991).

<sup>9</sup>Army Force Structure: Future Reserve Roles Shaped by New Strategy, Base Force Mandates, and Gulf War (NSIAD-93-80, Dec. 15, 1992).

<sup>10</sup>Operation Desert Storm: Army Had Difficulty Providing Adequate Active and Reserve Support Forces (GAO/NSIAD-92-67, Mar. 10, 1992).

Changes in key assumptions underlying the RAND study could significantly affect the desirable force mix. For example, RAND's analysis is based on whether units would be able to respond to two concurrent major regional contingencies within the required time frames. If the bottom-up review changes the number and type of conflicts to which DOD must respond to a more modest goal, expected time lines for active and reserve forces may change. A change in this key assumption could open up opportunities for a larger role for the reserves to the extent that more time would be allowed to prepare them for deployment. The RAND study also assumes that the current practice of structuring forces for combat missions will continue. If a decision is made to structure forces for peacetime engagement needs, some functions now assigned primarily to the reserves may need to be shifted to the active component. Such a shift would be required because reserve forces (other than volunteers) would not be available for extended periods without a presidential reserve call-up.

In commenting on a draft of this report, DOD said that this is an Army force structure issue that does not have roles and functions implications for the services as a whole. We believe this is a roles and functions issue as it concerns the assignment of functions between two defense components—the active and reserve forces. The Goldwater-Nichols legislation, as amended, specifically directs the Chairman to examine the extent to which the efficiency of the armed forces can be enhanced by transferring functions from active to reserve components. Additionally, the RAND study—which is the basis of most of the Chairman's discussion of reserve forces—also focused on the Army.

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## Combat Logistics

Logistics is the supply and maintenance of material essential to proper operation of systems in the force. The full capability of systems can only be realized if the parts, tools, test equipment, personnel, facilities, fuel, and other such elements of logistics support are available when needed.

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## Chairman's Report

The Chairman did not make any recommendations in combat logistics. The report discussed the changes in the logistics system that have resulted from the changing national security environment. This major change has caused DOD to rethink its logistics structure and what is needed to meet the new emphasis on regional contingencies. DOD, as part of its Inventory Reduction Plan, has made several changes to reduce its inventories.

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## Our Assessment

Over the past several years, we have issued a number of reports on ways DOD can streamline its logistics system. Much of our work has focused on (1) increasing visibility by the wholesale inventory managers of inventories at the unit level and (2) improving requirements processes at the wholesale and retail levels to more accurately reflect true inventory needs. While DOD has made progress in eliminating and/or reducing its inventory requirements, these levels are still overstated by billions of dollars. Much remains to be done to reconfigure the inventory levels to more accurately reflect the services' needs.

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## Inventory Visibility

Our work on increased visibility of retail-level inventory by the wholesale level managers<sup>11</sup> showed that greater efficiencies in utilization of existing inventory could be achieved and DOD could make sizeable reductions to its inventory investment. Although our recommendations have generally met with approval at the DOD policymaking level, implementation at the unit level has been slow. The resistance to reducing inventory level stems from a mind set at the operational level that more inventory is better.

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## Inventory Requirements

Our requirements reviews<sup>12</sup> at the wholesale level have consistently demonstrated that the requirements are overstated and more inventory is being retained than is necessary to meet current operating needs. The requirements systems are not reflective of the current world situation in terms of threat and types of conflicts the services are likely to face. As a result, the tendency is to compute larger than necessary requirements and to acquire and/or retain more inventory than needed. These requirements have led to unnecessary procurements and establishment of unneeded repair programs.

Our reviews at the retail level have disclosed that inventory levels are unnecessarily high and that units could reduce their inventory investments

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<sup>11</sup>Army Inventory: A Single Supply System Would Enhance Inventory Management and Readiness (GAO/NSIAD-90-53, Jan. 25, 1990).

<sup>12</sup>Army Inventory: Growth in Inventories That Exceed Requirements (GAO/NSIAD-90-68, Mar. 22, 1990); Army Inventory: Army Annually Spends Millions to Keep Retention-Level Stocks (GAO/NSIAD-90-236, Sept. 11, 1990); Defense Inventory: Shortcomings in Requirements Determination Processes (GAO/NSIAD-91-176, May 10, 1991); Army Inventory: Need to Improve Process for Establishing Economic Retention Requirements (GAO/NSIAD-92-84, Feb. 27, 1992); and Army Inventory: Current Operating and War Reserve Requirements Can Be Reduced (GAO/NSIAD-93-119, Apr. 14, 1993).



by hundreds of millions of dollars by only stocking those items they need.<sup>13</sup> Like inventory managers at the wholesale level, retail level managers are reluctant to take the necessary actions to reduce their inventories for fear that they might not have an item on-hand when needed. Our review showed, however, that it would be much cheaper and more efficient to stock many of the items at the depots and when there is a high-priority need for the item, to have delivery to the requester expedited.

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### Issues Warranting Further Consideration

Our recommendation to establish a single supply system that would give greater visibility of inventories to the wholesale level managers and facilitate redistribution of excess inventories while at the same time reduce inventory investment was adopted by DOD. Full implementation of this recommendation will be a lengthy process that DOD estimated would not be completed until 1995. We believe that the process could be expedited if top level DOD management were to so require.

With regards to our recommendations for improving the requirements process, DOD has been more responsive by developing corrective actions at the wholesale and retail levels for reducing requirements and inventory levels. However, implementation and follow up on the corrective actions are required to ensure that these actions are fully implemented.

In commenting on a draft of this report, DOD said we did not acknowledge that it had reduced its inventories by some \$34 billion in the 3-year period ending in 1992 and that this reduction continues. We agree that DOD has made progress in reducing inventories, particularly at the wholesale level. These reductions have occurred partly by reducing the number of inventory items and, as a result, the associated inventory investment. However, a significant portion of the reduction has occurred by repricing the inventory in terms of (1) reducing the reported value related to unserviceable items and (2) repricing the value of potential excess inventory to reflect only 2.3 percent of the cost incurred in acquiring the items.

DOD has not made as much progress with regards to the inventory at the retail level. In fact, we have seen significant increases in the number and value of inventory at the unit level. For example, the value of the authorized inventory at Army divisions has, in many cases, doubled over

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<sup>13</sup>Army Inventory: Fewer Items Should Be Stocked at the Division Level (GAO/NSIAD-91-218, July 24, 1991); Army Inventory: Divisions' Authorized Levels of Demand-Based Items Can Be Reduced (GAO/NSIAD-93-09, Oct. 20, 1992); and Navy Supply: Improved Backorder Management Will Reduce Material Costs (GAO/NSIAD-93-131, Mar. 19, 1993).

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the past 2 years. Our ongoing work is addressing the reasons for these increases. In view of the above, we continue to believe that much remains to be done to streamline DOD's inventory systems.

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## Depot Maintenance Consolidation

Depot level maintenance is maintenance performed on material requiring major overhaul or a complete rebuild of parts and assemblies. The depot level supports the two lower levels of maintenance—organizational and intermediate—through more extensive shop facilities and equipment and personnel of higher technical skill than normally found at the lower maintenance levels.

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## Chairman's Report

The Chairman's report recommended reducing and restructuring depot maintenance 25-50 percent; closing 7 or 8 of the 30 military depots, which could save between \$400 million and \$600 million per year; and using the Defense Base Closure and Realignment Commission process to nominate depots for closure or consolidation. It also recommended further consideration of a proposal to establish a *Joint Depot Maintenance Command*.

In forwarding the Chairman's report to the Congress, the Secretary of Defense stated that he will assess the merits of these recommendations and examine the feasibility of consolidating additional depot activities.

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## Our Assessment

In preparing this section of the Chairman's report, the Joint Staff drew heavily on work performed by the Depot Maintenance Consolidation Study Group.<sup>14</sup> The study group's analysis was effective in highlighting opportunities to provide more cost-effective depot maintenance capabilities. This group identified the following options for future management of depot maintenance:

- designation of one military service to act as executive agent for each major commodity (i.e., aircraft, ships, and ground systems);
- consolidation of all depot maintenance activities under a single defense maintenance agency; and
- creation of a Joint Depot Maintenance Command.

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<sup>14</sup>Chartered by the Chairman of the Joint Chiefs of Staff, this group, comprised of active and retired representatives from all four services and a senior industry representative, was tasked to identify ways to scale down excess depot maintenance capacity and reduce costs.

Additionally, the study group concluded that significantly greater savings would be possible if work load consolidations undertaken as part of the defense base closure review process had been done across service boundaries. However, despite the recommendations of the Chairman of the Joint Chiefs of Staff and the Deputy Secretary of Defense that the military services go beyond service boundaries, consider opportunities for interservicing<sup>15</sup> and submit integrated base closure proposals, they did not do so. The services, based on their own assessments, did recommend nine maintenance depots for closure to the Defense Base Closure and Realignment Commission.<sup>16</sup>

The study group's analysis of excess capability and capacity was constrained by the quality and availability of data, which made it necessary to make many assumptions. Although the analysis was limited, its conclusions were sound. The study group concluded that creation of a Joint Depot Maintenance Command would produce the greatest opportunities for matching capacity with future requirements and for improving efficiency. However, DOD has made no decisions on how it will organize and manage its depots in future years. The Chairman's report noted that creation of this command will be explored in greater depth and that any conclusions reached would be included in a report to the Congress on combat support agencies due this year.

Although depot management problems are well documented, DOD has not been able to successfully implement actions to reduce either excess capacity or duplication of effort. Our recent report on the base closure recommendations and process<sup>17</sup> noted that the services' efforts to pursue a number of cross-servicing proposals ended in disarray, due in large part, to a lack of forceful leadership needed from the Office of the Secretary of Defense to overcome service parochialism.

In addition to excess capacity within the depots, there are also large amounts of depot-like capacity in the services' intermediate level

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<sup>15</sup>Interservicing involves transferring work on comparable systems to the depot of another service to take advantage of economies of scale and to avoid the cost of maintaining dual capabilities in both services.

<sup>16</sup>The Secretary of Defense removed McClellan Air Force Base from his list of recommended closures. In addition, one of the remaining eight depots—the Aerospace Guidance and Metrology Center, Newark Air Force Base, Ohio—may be privatized rather than closed.

<sup>17</sup>Military Bases: Analysis of DOD's Recommendations and Selection Process for Closures and Realignments (GAO/NSIAD-93-173, Apr. 15, 1993).

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maintenance units throughout the world. The study group did not consider increased utilization of this capacity.

Another opportunity for additional reductions in depot maintenance capacity is greater utilization of private sector maintenance capacity. With the end of the cold war and reductions in new defense procurements, commercial contractors would like more of the depot maintenance business. Private sector involvement in depot maintenance activities is not new. Equipment manufacturers have traditionally performed depot maintenance for a number of years after a new weapon system was fielded—generally until the design was stabilized, depot plant equipment and technical drawings procured, spare and repair parts inventories established, maintenance manuals developed, and maintenance personnel trained.

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### **Issues Warranting Further Consideration**

We believe that more rigorous analysis is needed to support future depot downsizing efforts. We also believe additional consolidations and reductions of depot maintenance capability are possible. Three specific alternatives that need to be pursued include (1) interservicing among depots, (2) increased utilization of intermediate level maintenance capacity for repair work currently performed at the depot level, and (3) greater use of private sector maintenance capacity.

DOD, in commenting on a draft of this report, did not specifically address the alternatives we cite for further reductions in depot maintenance capacity. It did take exception to our observation that a more rigorous analysis is needed to support future depot downsizing efforts. We continue to believe such analysis is required. For example, the consolidation study group's projections of excess capacity understated opportunities to consolidate similar work loads within the military services. Additionally, the depot capacity estimates used in the study group's analysis greatly understated DOD's ability to more cost effectively use existing facilities and equipment to generate maintenance output. The methodology used to define capacity (1) considered only the capability to conduct a single, 40-hour-per-week operation; (2) understated the ability of the gaining depot to absorb additional work load, given the movement of equipment from losing depots and potential productivity gains achievable by increasing available personnel; and (3) did not consider depot maintenance capacity in the private sector or in military units. Finally, the lack of consistency and reliability in the collection and analysis of cost

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accounting, performance measurement reporting, and capacity measurement systems continues to inhibit restructuring efforts.

We are analyzing various depot maintenance management alternatives as a part of our ongoing depot maintenance work. We recently discussed the depot maintenance issue in greater detail before the House Armed Services Committee<sup>18</sup> and plan to issue reports on our findings in the near future.

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## General Support Maintenance

General support maintenance provides equipment repair capability in the rear area of a battle zone to sustain combat and support forces. As combat operations increase, more equipment becomes inoperable, increasing the need for general support maintenance to ensure that the flow of serviceable equipment is not interrupted.

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## Chairman's Report

The Chairman's report did not address this function.

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## Our Assessment

A recent review by our office revealed deficiencies necessitating corrections that could affect the Army's maintenance strategy for war as well as the role of civilians.<sup>19</sup> We reported that the Army's current general support maintenance strategy is inconsistent with actual wartime maintenance practices and will most likely be ineffective in future conflicts. Specifically, the strategy relies on military units to perform general support maintenance, while in practice the Army relies heavily on civilian (U.S. government civil servants employed by the Army)<sup>20</sup> maintenance workers to provide the support.

Although Army units are expected to play the predominant role in performing general support maintenance during wartime, they have not historically performed this maintenance, particularly on the Army's most modern equipment, in peacetime on a regular basis. Therefore, they have not developed the capability to effectively perform such maintenance on all equipment during wartime. For example, during the Gulf War, many of the general support maintenance units that deployed to the Persian Gulf

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<sup>18</sup>Depot Maintenance: Issues in Management and Restructuring to Support a Downsized Military (GAO/NSIAD-93-13, May 6, 1993).

<sup>19</sup>Army Maintenance: Strategy Needed to Integrate Military and Civilian Personnel Into Wartime Plans (GAO/NSIAD-93-95, Apr. 29, 1993).

<sup>20</sup>The Army also relies heavily on civilian support from contractors and host nations that were not addressed in our report.

lacked the training, skills, and experience to perform repairs on the Army's most modern equipment, especially the M1A1 tank and the Bradley Fighting Vehicle.

Civilians employed by the Army regularly perform this maintenance in peacetime and are qualified to perform these tasks during times of war. However, because of the Army's formal strategy, ad hoc arrangements must be made during actual deployments. For example, during the Gulf War the Army Materiel Command established the U.S. Army Support Group, a temporary organization primarily composed of civilians to provide general support and limited depot maintenance support in the Gulf. Overall, approximately 1,000 civilians deployed on tours ranging from 90 to 179 days. The Support Group was successful in performing repairs on various types of equipment, ranging from gas masks to tanks.

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## **Issues Warranting Further Consideration**

In our April 1993 report, we recommended that the Secretary of the Army take the following actions to ensure that support requirements for future conflicts are effectively met: (1) revise the existing general support maintenance strategy to reflect likely future conflicts, maintenance capabilities of military units, and the extent to which civilians are likely to be used in various scenarios; (2) on the basis of the revised strategy, assign specific missions to available military and civilian maintenance resources and develop a training program that provides for the required peacetime training to achieve those missions; (3) revise maintenance doctrine to recognize the potential use of civilians in various scenarios and develop, as necessary, mobilization plans for deploying civilians for future conflicts; and (4) on the basis of a revised strategy, determine if reductions in the number of military maintenance units are warranted.

In commenting on our April 1993 report, DOD said the Army was developing revised battlefield doctrine to include the most effective use of support forces. As part of that effort, the Army was reviewing the use of civilians in various conflicts and was developing concepts for the future employment of an Army Support Group. DOD indicated that after the battlefield doctrine has been revised and the use of civilians in conflicts has been evaluated, it can consider changes in its general support maintenance strategy.

In its comments on a draft of this report, DOD said that it believes this is largely an Army issue where it is under study. It said that it has only marginal cross-service implications and, therefore, does not have an

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appropriate place in the Chairman's report. We believe it represents an opportunity to reduce or eliminate unnecessary capabilities within the military services and, while our April 1993 report did only address Army units, the broader implications of civilian performance of maintenance functions may be applicable to all services.

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## Defense Intelligence

Intelligence services collect, process, integrate, analyze, evaluate, and interpret information about conditions, motives, and actions of foreign countries for use in policy formulation and implementation as well as support of military planning and operations.

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## Chairman's Report

The report detailed the actions that were already underway or planned to restructure Defense intelligence. These included congressionally directed reductions in intelligence personnel of 17.5 percent by the end of fiscal year 1997 and Secretary of Defense direction to centralize intelligence management and restructure major intelligence activities. The report concluded that further consolidation of intelligence production centers under a joint intelligence organization might reduce infrastructure and overhead.

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## Our Assessment

Our work indicates that the Defense intelligence community has begun to reshape its activities in line with the above direction. Major initiatives include (1) consolidating individual service component command intelligence processing, analysis, and production activities into regional Joint Intelligence Centers to improve intelligence support to the war-fighting commander; (2) consolidating individual service intelligence commands, agencies, and elements into a single intelligence command within each service; (3) eliminating some overseas operating locations; and (4) eliminating individual service intelligence watch centers in Washington by combining their activities into a single National Military Joint Intelligence Center.

Actions have been taken to consolidate individual service component intelligence activities into regional Joint Intelligence Centers in the U.S. Pacific, Southern, and several other commands. Also, the Navy has made considerable progress to consolidate most of its intelligence activities into a single command, and the Army and the Air Force are in the process of restructuring their activities.

Defense intelligence planners told us that they expect that a restructured and significantly reduced Defense intelligence community will result in less people and lower costs. However, they have yet to aggregate data on the extent of the potential cost savings.

It is unclear in the Chairman's report how a restructured Defense intelligence community will meet the theater and tactical intelligence requirements of the warfighting commander. An ongoing study by the Defense Intelligence Agency is expected to address this question—to include identifying the intelligence personnel, collection systems, and intelligence products to support the war-fighting commander. The Defense Intelligence Agency expects to report to the Chairman on these matters in September 1993.

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**Issues Warranting Further Consideration**

Decisions concerning the future roles, missions, and functions of certain Defense intelligence activities remain. For example, European theater service component intelligence organizations and activities remain essentially at their cold war era levels. No decision has been made concerning the future role of military intelligence reserve forces in a restructured Defense intelligence force.

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**Space Infrastructure**

All the military services and the U.S. Space Command are involved in space activities to support their war-fighting roles. The U.S. Space Command is a unified command that supports all other unified and specified commands and has responsibilities in both space operations and aerospace defense. The Army, the Navy, and the Air Force are represented by component commands under the U.S. Space Command.

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**Chairman's Report**

The report (1) recommended that a study be performed to assess the feasibility of eliminating the U.S. Space Command and assigning the space mission to the U.S. Strategic Command, (2) proposed that the Air Force operate all space systems under the U.S. Strategic Command and be responsible for developing future military space systems, and (3) proposed that small Army and Navy components be assigned to the U.S. Strategic Command.

According to the Chairman's report, these actions would (1) conserve scarce resources and eliminate a substantial number of positions and (2) improve war-fighting support from space, allowing an increase in



operational effectiveness, efficiency, and interoperability, while maintaining joint service expertise and joint operational focus.

## Our Assessment

DOD representatives performed some analysis to identify potential cost savings and operational benefits from the Chairman's proposed changes. The analysis provided estimates of personnel reductions and operational and organizational pros and cons of various alternatives. However, the representatives stated that the analysis was limited, and on the basis of our examination, it was not evident how the savings and benefits were derived. Therefore, we believe further study is necessary to determine and document the savings and benefits stated in the Chairman's report.

We agree that the military space infrastructure should be reviewed. However, concerns have been raised to us by U.S. Space Command representatives about the potential assignment of the Space Command's mission to the Strategic Command. They said placing the space function under the nuclear-oriented Strategic Command could have political and operational consequences because it could affect (1) the agreement between the United States and Canada for the defense of North America, (2) negotiations among the United States, allies, and other countries concerning a cooperative warning system, and (3) the priority given to performance of critical space surveillance and missile warning functions, including satellite system support to nonnuclear users. These matters should be addressed in the study directed by the Secretary of Defense in response to the Chairman's recommendation to assess the feasibility of assigning the space mission to the Strategic Command.

Although we were able to obtain comments on the Chairman's report from representatives of the U.S. Space Command, and the Joint Staff, we were unable to obtain comments from representatives of the U.S. Strategic Command. While representatives of the command were willing to discuss the space infrastructure issues with us, they declined to do so based on the advice of the Joint Staff.

The Chairman's proposals indicate that the Army, the Navy, and the Air Force component space commands should be retained. A December 18, 1992, draft of the Chairman's report proposed disestablishing the Army and the Navy space components and transferring their responsibilities to the Air Force Space Command. A Joint Staff official said this proposal was dropped from the final report in response to service comments on the December draft. A February 1988 DOD study on unified and specified

command headquarters had also recommended disestablishing the component space commands. In supporting this position, the study group's chairman stated that (1) operating separate component commands within the services prevents maximizing the effectiveness and efficiency of the entire space mission and (2) integration of requests for space resources would help ensure a coordinated program to satisfy requirements for space assets.

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**Issues Warranting Further Consideration**

The Chairman's report cited the importance of a vigorous space program but stated that "we can no longer afford to allow multiple organizations to be involved in similar, independent space roles and functions." Considering the expense of maintaining component space commands and the need to address unnecessary duplication among the services, we believe the need for continuing separate Army, Navy, and possibly Air Force space commands may merit reexamination.

In commenting on a draft of this report, DOD said there is a need to retain separate service space commands in order to maintain a strong cadre of service expertise in space operations as the use of space in war-fighting by all the services expands dramatically. However, this position appears to be inconsistent with the Chairman's concerns about the cost of maintaining multiple organizations involved in similar space roles and functions. We believe that as part of the study the Secretary of Defense directed of the proposed merger of the commands, it may be appropriate for DOD to reconsider this decision. Information we were provided by the Joint Staff indicates that the analysis behind this and other parts of the Chairman's space infrastructure proposals was limited.

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**Training and Test and Evaluation Infrastructure**

DOD owns and operates an extensive array of training and test and evaluation ranges and facilities throughout the United States. DOD's ranges and facilities were developed and sized over the past several decades in response to cold war requirements and a modernization/acquisition pace driven by the need to retain technological superiority.

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**Chairman's Report**

The Chairman's report recommended that the Secretary of Defense designate an executive agent to streamline the test and evaluation infrastructure. In addition, training and test and evaluation ranges should be linked electronically over the next few years to support joint training and testing at lower costs and increased effectiveness. Joint Staff officials

do not believe these recommendations will result in significant consolidations of the test and evaluation infrastructure. In responding to the Chairman's recommendations, the Secretary of Defense said his office, assisted by service secretaries, will streamline the infrastructure and the feasibility of electronically linking service training ranges will be examined.

According to the Chairman's report, each service has approached training, and test and evaluation from its unique perspective and has developed its own infrastructures, leading to DOD-wide overlap and redundancy. In 1990, a process called Test and Evaluation Reliance was begun to integrate test and evaluation procedures and ranges. The report noted that, despite this effort, there was still much room for innovation, consolidation, and savings.

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## Our Assessment

Additional guidance to that contained in the Goldwater-Nichols Act was provided during periodic meetings held by a Training and Test and Evaluation Infrastructure working group. A Joint Staff official described these meetings as a "follow your nose" approach to conducting the group's efforts and said minutes of these meetings and supporting analyses or documentation, for the most part, do not exist.

The chairman of the Joint Staff working group said the group relied on past and ongoing study efforts as well as the experiences of the working group members. In addition, the Chairman of the Joint Chiefs of Staff sent a memorandum to the services requesting them to define a streamlined test and evaluation infrastructure objective and a plan to achieve it. However, while drafting this section of the Chairman's report, emphasis was instead placed on the concept of establishing an executive agent and electronically linking training and test and evaluation ranges. As a result, the Chairman's request to streamline the test and evaluation infrastructure was overtaken by events.

With respect to the training implications of the recommendations, Joint Staff officials told us that the Army was adamant that they did not want to give up unit level training that is conducted at the Army's National Training Center. The Army noted that it was all right to conduct "joint training" as long as it did not impact on its "unit level" training. The Navy and the Air Force expressed similar concerns, but to a lesser extent. As a result, references to consolidating training and test and evaluation ranges were deleted from the draft report. Regarding these deletions, a Joint Staff

official told us that the impacts of the recommendations on the ranges would depend on further study.

In April 1993, we reported that DOD has made little progress in consolidating its major test range capabilities.<sup>21</sup> As a part of our efforts, we evaluated the effectiveness of the Test and Evaluation Reliance process. Instead of aggressively pursuing consolidations, the process established management arrangements for planning and managing future test investments and fostered policy decisions that allowed the services to retain their existing test capabilities and funding authority. Instead of providing a lead service funding authority to function as a single manager over a particular area—along the lines of an executive agent as recommended by the Chairman—each service will continue to fund its own test investments.

In October 1992, the Director, Defense Test and Evaluation, informed the Chairman of the Joint Chiefs of Staff of two areas for possible consolidation, although it was not anticipated that ongoing Reliance studies would overcome service resistance and consolidate these areas. These potential consolidations included Air Force and Navy electronic warfare test capabilities as well as high performance fixed-wing aircraft testing. However, according to Joint Staff officials, a decision was made to focus in the near term on establishing an executive agent and electronically linking training and test and evaluation ranges.

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### Issues Warranting Further Consideration

In our April 1993 report, we recommended, among other actions, that the Secretary of Defense designate a lead service in each Reliance area with funding authority to serve as a single agent to help eliminate existing duplication of test capabilities. These Reliance areas would include capabilities to test such items as land vehicles, guns and munitions, and surface-to-air missiles. We believe that real progress in breaking down service barriers opposed to changing the current test and evaluation infrastructure will not occur until strong steps, such as creating an executive agent, are taken to strengthen the consolidation process.

DOD should consider consolidating in two areas—Air Force and Navy electronic warfare threat testing capabilities and high performance fixed-wing aircraft testing capabilities—as previously suggested by DOD's Director, Test and Evaluation.

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<sup>21</sup>Test and Evaluation: Little Progress in Consolidating DOD Major Test Range Capabilities (GAO/NSIAD-93-64, Apr. 12, 1993).

In commenting on a draft of this report, DOD did not specifically address the two test capability consolidations suggested by its Director, Test and Evaluation. It did cite a draft test resources management plan that it said details a strategy and process for consolidating test capabilities and functions. DOD did not make this draft proposal available to us and thus, we were unable to verify its content. However, during our recent review of DOD efforts to consolidate major test range capabilities, we did review several versions of a DOD test resources plan. We noted that the plan, in draft form for the past few years, addressed future test investments as opposed to consolidation of test capabilities and a reduced test and evaluation infrastructure. Until we can confirm that in the new plan DOD more aggressively pursues timely consolidations of test capabilities, we will continue to question its commitment to management efficiencies in this area.

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## **Aerial Refueling**

Military aircraft often require aerial refueling by tankers. DOD relies primarily on about 550 KC-135 and 59 KC-10 jet tankers operated by the Air Force and 132 C-130 cargo aircraft that have been converted to tankers and are operated by both the Air Force (58) and the Marine Corps (74) for aerial refueling. Small fixed-wing fighters can refuel from either Air Force jets or C-130 tankers. Larger fixed-wing aircraft such as strategic bombers or C-141 airlifters require jet tankers. Helicopters can refuel only from the slower flying C-130.

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## **Chairman's Report**

The Chairman's report considered consolidating all C-130 tankers under one service but recommended against the action on the grounds that it would decrease operational effectiveness, complicate management and support, and not save money. The report did not address the larger issue of equipment incompatibilities that limit the aerial refueling interoperability of fighter aircraft.

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## **Our Assessment**

We are evaluating the future of Air Force jet tankers in light of Desert Storm and recent changes in the international security environment. As part of that work, we are reviewing whether DOD has adequately assessed a 1990 initiative to enhance air refueling operations through the expanded use of the multipoint, probe/drogue refueling system. Our initial analysis indicates that DOD did not assess this initiative objectively and should reexamine it from a cross-service perspective.

Air Force fighters refuel with a boom/receptacle system in which a tanker maneuvers a telescoping tube into a receptacle on top of the receiver aircraft. Other services and many U.S. allies use the probe/drogue system where the fighter pilot maneuvers a telescoping pipe (probe) mounted to the aircraft fuselage into a basket (drogue) trailing on a long hose from the tanker wing or fuselage. Implementing the 1990 initiative would require the Air Force to incorporate probes on some or all of its F-15, F-16, and the future F-22 fighters.

The rationale behind the refueling standardization initiative was increased effectiveness, efficiency, interoperability, and safety during multiservice/multinational air operations. By enabling two fighters to be refueled simultaneously, multipoint is faster than a single boom. Fewer multipoint tankers can service the same number of fighters as a larger number of boom-equipped tankers. Moreover, a portion of the tanker fleet would no longer have to be set aside to support naval operations. With three offload points, KC-135 multipoint tankers offer improved safety and permit the refueling of both probe and receptacle-equipped aircraft on the same mission. Finally, increased efficiency could justify a reduction in the size of the tanker force, offsetting both tanker and fighter modification costs.

The Air Force has decided against converting to the probe/drogue system. According to Air Force analyses, the new multipoint refueling system would (1) not be significantly faster, (2) cause tanker aircraft to run out of fuel sooner, (3) pose operational problems for F-16 and F-22 fighters, and (4) be of marginal utility during a conflict such as Desert Storm. The current plan calls for no Air Force fighters to be equipped with probes, but the Air Force is planning to retrofit 75 tankers with multipoint to support naval aircraft. However, the Senate Appropriations Committee eliminated research and development funds for the KC-135 multipoint program from fiscal year 1993 defense appropriations.

Our analysis of Air Force data showed that (1) the two refueling systems operate on fighters at about the same speed and, therefore, multipoint with twin off-load points is significantly faster; (2) the Air Force made unrealistic assumptions about tanker loitering times that overstated multipoint tanker fuel usage; (3) the Air Force exaggerated the operational impediments to equipping F-16s and F-22s with probes; and (4) single-point, boom-equipped tankers limited operational flexibility during Desert Storm.

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We believe that the Air Force analysis of multipoint, probe/drogue refueling understated potential system benefits and overstated potential problems. Nonetheless, the information currently available does not make an unequivocal case for Air Force conversion to the probe/drogue system. The Air Force is satisfied with the current refueling system and maintaining competency in both boom and probe refueling would entail additional refueling training.

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**Issues Warranting Further Consideration**

We believe a full and objective assessment of the refueling initiative's pros and cons from a cross-service perspective is required before it will be clear how DOD can best meet its aerial refueling needs with a reduced force structure.

In commenting on a draft of this report, DOD said this is not a roles and missions issue. However, in June 1993 comments on a draft of our aerial refueling report, DOD officials agreed that a reassessment of the Air Force position on probe/drogue refueling and the operational impact of multipoint is warranted. These officials also agreed that this reassessment should contain a cost analysis that considers potential tanker retirements, including retirement of the Marine Corps' KC-130 assets.

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**Antisubmarine Warfare**

Antisubmarine warfare involves detecting, identifying, tracking, targeting, and attacking enemy submarines. These tasks are accomplished by the Navy using aircraft, surface ships, and submarines supported, in part, by its sound surveillance system.

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**Chairman's Report**

The antisubmarine warfare function was not addressed in the Chairman's report.

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**Our Assessment**

Although the Chairman's report does not discuss the antisubmarine warfare function as it is performed only by the Navy, we are including it in our report because of potential savings through reductions in unneeded undersea surveillance capability.

We issued a classified report in May 1993 that concluded the Navy could reduce the cost of operating and improving the sound surveillance system by about \$680 million to \$920 million through fiscal year 1998. These savings would result if the Navy eliminated unnecessary operations in

open ocean and U.S. coastal waters. These eliminations are possible due to significant reductions in the submarine threat.

We presented three options for reducing unnecessary operations, each having an increasing level of risk. Our third option, which had the greatest risk, offered the most savings. Fleet officials considered the risks associated with our second option acceptable, but not the risk associated with our third. The Navy approved a consolidation plan in August 1992 that has a level of risk that falls between our first and second options.

DOD officials did not agree with our calculated savings, stating that we assumed savings would accrue too quickly and that reductions were overstated with regard to productivity increases, operations and maintenance, and research and development. They also said that much of our estimated savings will be realized under the Navy's approved plan. We were unable to compare our estimates with the Navy's savings under its plan as that data was in the Navy's outyear budget which it would not provide us.

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### **Issues Warranting Further Consideration**

We recommended that the Secretary of Defense direct the Secretary of the Navy to review the sound surveillance system's planned expenditures for fiscal years 1994 through 1998 for additional reductions based on the differences between the Navy's desired level of operations and our options. With the dissolution of the Soviet submarine threat, we believe the Navy can consolidate its underseas surveillance capabilities further and achieve greater cost avoidance than under the more limited consolidation plan it is pursuing.

In commenting on a draft of this report, DOD said this is not a roles and functions issue and there were some inaccuracies and weaknesses in our assessment. These included (1) an unsupportable assertion that the Soviet submarine threat has dissolved, (2) use of an inappropriate basis for calculating cost savings, (3) an inability to execute proposals for technical reasons, and (4) an imprudent level of risk associated with further consolidations.

We do not agree with these comments. First, we believe the amount of capability warrants treatment in an evaluation of roles and functions. Second, our proposals are based on the changed submarine threat recognized as the basis for the Navy's August 1992 sound surveillance system consolidation plan. We are not dismissing the threat from the



current Russian submarine program but simply adopting DOD threat assessments of where these submarines are likely to operate, which is not where we are recommending reduced surveillance system operations. Third, we based our cost estimates on the most current Presidential budget submission available to us. Fourth, regardless of whether our proposals could be adopted more or less quickly for technical reasons, there are additional reductions the Navy can take beyond its desired level of operations. Finally, we still believe our proposed options are based on an acceptable level of risk. These matters are discussed further in our classified May 1993 report.

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## Training

Training includes the processes, procedures, techniques, training devices, and equipment used to prepare personnel to adequately perform their combat and other functions. This includes individual and crew training; new equipment training; and initial, formal, and on-the-job instruction.

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## Chairman's Report

Various aspects of training were addressed at several points in the Chairman's report. Although some consolidations and streamlining were evident in the study's recommendations, an equally strong emphasis, particularly when the various training topics are viewed collectively, was an increased emphasis on centralized management of "jointness" in training.

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## Our Assessment

Some of the training areas were the subject of separate study efforts apart from or predating the Chairman's report. While the report has given greater visibility to these areas, and the Secretary of Defense has ordered some implementing actions, many of the areas are the subject of continuing study efforts or efforts to develop implementation plans.

Several of the study training areas included in the Chairman's review give heightened and needed attention to jointness. However, the report and recommendations, pending completion of implementation plans, leave unclear how several actions will be implemented, and to what extent they will individually and collectively impact the services' traditional training roles. The report is silent on how the actions collectively are intended to affect the service roles. Joint Staff officials acknowledged that the training proposals have created concerns on the part of the services as to how their service-unique operations would be affected and concerns about potential impact on their already constrained training time.

An example of an area of concern is the potential integration of training ranges and test and evaluation ranges. Although significant benefits have been cited, Joint Staff officials acknowledged that each of the services have had concerns about how integrating training and test and evaluation ranges under the management of an executive agent—as proposed in a draft of the Chairman's report—would affect their abilities to schedule use of these facilities for training. From a training perspective, the proposal created concern about how testing operations might interfere with normal unit training by the services. As a result, the Chairman's final report focused more on the integration of test and evaluation ranges and less on their integration with training. The final report did, however, recommend electronically linking training and test and evaluation ranges in broad geographic areas to enhance joint test needs and support training requirements. Whether DOD will proceed with such a linking is unclear. The Secretary of Defense, in response to the Chairman's recommendation, directed only an examination of the feasibility of electronically linking service training ranges and possibly similarly linking test and evaluation ranges.

A second area of training discussed in the Chairman's report was initial skills training. Current emphasis on consolidating initial skills training involves a 3-year study effort that began in January 1993. It reinforces previous ongoing efforts in this area by providing high-level oversight and quarterly progress reviews by the Vice Chairman of the Joint Chiefs of Staff. In the past, the services did not have to justify their decisions not to implement a recommended consolidation. Accordingly, the success of the new initiative will depend heavily on the effectiveness of the Joint Chiefs of Staff's leadership.

One issue not mentioned in the Chairman's report was the potential for using civilian educational institutions as an alternative to service integrated schools to provide initial skills training to military personnel. For example, a 1990 Air Force study identified the potential for contracting with community colleges to provide training for 40 percent of all Air Force initial skills courses. No action has been taken to take advantage of this potential cost savings. A review by our office found that the feasibility and potential savings of civilian contract training justified further exploration of such training alternatives by all of the services.<sup>22</sup> The Air Force report anticipated no diminution in military qualities, such as self-discipline and adherence to military standards, because of contract training. Occupation skills such as medical and dental specialties, food

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<sup>22</sup>Military Training Options: Feasibility of Using Civilian Institutions (GAO/PEMD-91-17, May 1, 1991).

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service, vehicle driving and maintenance, and construction were identified by a RAND Corporation study as good civilian training candidates.

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**Issues Warranting Further Consideration**

To reduce the costs of training, we believe the use of civilian educational institutions to provide initial skills training warrants continued examination by DOD.

In commenting on a draft of this report, DOD said this is not an issue to be addressed in the Chairman's report. Each service has unique training requirements and trade-offs among various training approaches remain with the services that are responsible for organizing, training, and equipping their forces. We recognize that the services have been assigned the responsibility of training their forces; however, the Chairman's report did address training, including initial skills, and the use of civilian education institutions could have DOD-wide implications for efficiencies in training. We also note that the leadership role taken by the Joint Staff in DOD's military training structure review holds promise for overcoming obstacles to consolidation that have existed in the past.

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**Command and Control Communications**

Effective communications are imperative for commanding and controlling forces and DOD expects communications interoperability<sup>23</sup> to become increasingly critical under future joint military operations.

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**Chairman's Report**

The Chairman's report did not contain recommendations on communications but it did acknowledge that improvements are needed and made the point that a new concept—command, control, communications, computers, and intelligence (C4I) for the warrior—is intended to achieve global communications interoperability.

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**Our Assessment**

While DOD has improved its C4I capabilities, it is a long way from achieving complete and effective C4I interoperability among its military forces. Interoperability is a historical problem that persists, and the new initiative—C4I for the warrior—faces several obstacles.

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<sup>23</sup>DOD defines interoperability as the ability of systems, units, or forces to exchange services, enabling them to operate effectively together.

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**Interoperability Problems Persist**

DOD studies have corroborated that significant C4I problems have existed for years. Reports from these studies (1) discuss the need for DOD to strengthen its emphasis on acquisition of interoperable command and control systems by the services; (2) describe the challenge in the Gulf War of establishing a coherent, interoperable network consisting of three generations of tactical communication systems; and (3) state that interoperability among different systems is more a matter of chance than deliberate planning.

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**C4I for the Warrior Faces Obstacles**

C4I for the warrior is a renewed effort by DOD to develop effective interoperability. The concept is to (1) provide needed information to battlefield commanders when, where, and how it is wanted and (2) address not only past interoperability problems but also the revised national military strategy that anticipates regional, rather than global, threats and emphasizes joint military operations. However, this new initiative faces several obstacles and is not likely to be quickly or easily accomplished.

The tentative C4I for the warrior schedule shows an evolutionary effort in three concurrent phases extending into the 21st century. Success will be partially dependent on an effective integrated architecture that has yet to be developed. DOD expects to complete a migration plan in early 1994 to guide integration of service and unified command architectures into a global C4I objective architecture. The Chairman expects the final phase concept to be affordable but not technologically limited because it is to rely on maximum use of commercial off-the-shelf and nondevelopmental items. However, according to DOD representatives and studies, (1) a lot of economic analysis has yet to be done to implement the concept, (2) all the technology needed has not yet been determined and may not currently exist, and (3) competition for funds under decreasing budgets may hamper interservice cooperation.

In addition, effective enforcement of interoperability has been a continuing obstacle, according to DOD studies. In the past, the Office of the Secretary of Defense has not adequately applied its authority through the requirements and budget processes to ensure interoperability. Although DOD has recently made some policy changes to strengthen enforcement, the question is whether these changes are sufficient to overcome the obstacles. For example, a joint program integration office has been established to coordinate the C4I for the warrior planning effort, but a joint program management office with execution authority and funding control

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does not exist. The method of funding is a special problem that DOD may need to address. Funding uncertainties are problems for joint program managers when the funds are subject to service control. The alternative—central funding—has been a contentious issue within DOD because of the military services' budget authority and their tendency to place a priority on funding service-unique requirements.

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### Issues Warranting Further Consideration

Because it will be a major force provider, the Atlantic Command, which will be serving as a joint command for U.S.-based forces, could be the focal point for establishing or reviewing all joint C4I requirements, including taking the lead in ensuring effective C4I interoperability through joint training and exercises.

DOD may need to (1) place special emphasis on ensuring that an effective integrated C4I architecture is completed in a timely manner to serve as the link between operational requirements and systems development and (2) establish a joint program management office with execution authority and funding controls to ensure enforcement of interoperability during the acquisition process.

In commenting on a draft of this report, DOD said our suggestions that the Atlantic Command take the lead in C4I requirements and that a joint program management office be established to ensure enforcement of interoperability merit further evaluation.

# Comments From the Department of Defense



POLICY

## OFFICE OF THE UNDER SECRETARY OF DEFENSE

WASHINGTON, D. C. 20301-2000

In reply refer to:  
I-92/42470

3 JUN 1993

Mr. Frank C. Conahan  
Assistant Comptroller General  
National Security and International  
Affairs Division  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "ROLES AND FUNCTIONS: Assessment of the Chairman of the Joint Chiefs of Staff Report," dated May 21, 1993 (GAO Code 394498), OSD Case 9417. The DoD partially concurs with the report.

The draft report largely provides a useful assessment of the Chairman of the Joint Chiefs of Staff's review of roles, missions, and functions. The Department particularly welcomes constructive suggestions on areas for further assessment, since, as the Secretary of Defense and the Chairman of the Joint Chiefs of Staff have made clear, the Department's review of roles, missions, and functions is a matter of ongoing appraisal. In this way, as noted elsewhere, the Chairman's recent report represents but a "snapshot" in time of a continuing process. Indeed, there are now more than 30 major activities underway in response to the Secretary of Defense's recent directive on roles, missions, and functions. Much of this ongoing work deals with the same concerns that the GAO draft report cites as needing further analysis. Depot maintenance, test and evaluation, intelligence, space, overseas presence, and Reserve forces are good examples.

In reviewing the draft report, the Department has identified five areas that, generally given more careful treatment, would strengthen the overall report. These include:

Impact of defense reforms, particularly the Goldwater-Nichols Defense Reorganization Act of 1986. The GAO assessment offers little on the impact of defense reforms, even though these reforms have profoundly improved the relationship among the Department's various components, particularly the assignment of responsibilities (roles, missions, and functions) among the Secretary of Defense, the Services, the Chairman of the Joint Chiefs of Staff, and the unified and specified commanders-in chief. The

See comment 1.

Goldwater-Nichols reforms, in particular, successfully streamlined the chain-of-command and provided the theater commanders with the necessary authority to execute their responsibilities. At the same time they properly enhanced the role of the Chairman of the Joint Chiefs of Staff. The Department believes that the Goldwater-Nichols reforms contributed in a significant way to this nation's success in the Gulf War and, therefore, that consideration of additional changes in the assignment of roles, missions, and functions must first account for the positive effect these reforms have had on the Department's operations.

See comment 2.

Greater clarity over what constitutes "roles, missions, and functions." Several issues raised in the draft report focus not on the assignment of responsibilities within the Department, but instead on the aggregate level of capability needed in a given area. The Department agrees that many of the "how much?" issues require careful attention, and these will be subject to continuing review. But the Department would also caution that there is a great difference between roles, missions, and, functions (the delegation of responsibilities) and how much of a given capability is required. The GAO report should more clearly delineate these distinctions.

See comment 3.

Summaries of aggregate force capabilities lose sight of specialized force contributions. In several instances the draft report discusses aggregate capabilities (again, focusing on "how much?" issues) without accounting for, or in other cases dismissing, the specialized contributions of various force components. There is little or no discussion of why the Department considers it essential to maintain these capabilities. In other cases, discussion of force employment schemes is inaccurate or incomplete. This was especially evident in the section evaluating contingency and expeditionary forces.

See comment 4.

Impact of new mission areas. The draft report says little about new mission areas, particularly peacekeeping missions, and the impact these missions will have on roles and functions. Consideration of new mission areas helped inform the Chairman's recommendations and, since the release of the Chairman's report, has increasingly been a focus of attention within the Department. The joint working group assigned with implementing changes to the Atlantic Command is looking closely at these matters. The GAO assessment should consider these matters as well.

See comment 5.

Capabilities trade-offs. The draft report suggests cases where one set of capabilities can be substituted for another, presumably at less cost. Substitution of surface action groups for carrier battle groups is a good example. However, what the draft report does not offer is an

**Appendix III**  
**Comments From the Department of Defense**

evaluation of the capabilities that would be lost by making such trade-offs. The Department agrees that various trade-offs should be considered, and indeed these are routinely evaluated in the course of the Department's work. The Adaptive Force Package concept is one example where the Department is attempting to meet the theater commander's presence requirements, while at the same time being more flexible in the allocation of forces. Nevertheless, there should be a full accounting of what is to be lost--as well as what is to be gained--in substituting one set of capabilities for another.

You will find these broad areas of concern, along with other important issues, reflected in the enclosed comments. Careful attention to these comments would strengthen the report. Suggested technical changes were provided separately to the GAO staff. The Department appreciates the opportunity to comment.

Sincerely,



Edward L. Warner III  
Assistant Secretary of Defense  
Strategy, Requirements, and Resources

Enclosure



GAO DRAFT REPORT - DATED 21 MAY, 1993  
(GAO CODE 394498) OSD CASE 9417

"ROLES AND FUNCTIONS: ASSESSMENT OF THE  
CHAIRMAN OF THE JOINT CHIEFS OF STAFF REPORT"

ISSUES TO BE ADDRESSED IN THE  
DOD RESPONSE TO THE GAO DRAFT REPORT

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ISSUES

**GENERAL:** The Department believes that too much of the GAO assessment is focused on how much overall military capability is required, not on which component of the Armed Forces should maintain responsibility in a given warfare area--the real purpose of an examination of roles, missions, and functions. The Chairman's Roles and Missions Report is intended to serve as a background and guidance document to be used in support of other DOD planning efforts, not as a vehicle for evaluating overall force structure requirements or resource allocations. Every effort was made to stress this point with the GAO auditors, yet much of the GAO assessment suggests that the Chairman failed in his effort by not providing the Secretary of Defense or the Congress offset or tradeoff choices for reducing the defense budget. This clearly was not the intent of the Goldwater-Nichols Act which established the requirement for this report.

**ISSUE 1: Limitations of the Joint Staff Review.** The GAO observed that the focus of the Joint Staff review, particularly as related to some key combat functions, was on the appropriateness of the assignments of functions to the Military Services. The GAO further observed that the study deferred decisions on the potential for further changes in several key areas and made little attempt to address overlaps by distinguishing in greater detail the responsibilities of the individual Services where overlap exists. The GAO concluded options were not developed or presented to the Secretary of Defense for addressing overlaps and duplications that have evolved (1) among the Services in air interdiction capabilities or (2) between the Army and Marine Corps crises response forces.

The GAO determined that the Joint Staff review excluded such key functions as (1) strategic nuclear forces, (2) command and control communications, and (3) logistics. The GAO also concluded that methodological limitations hampered the depth of the study, with no specific written guidance to either the Joint Staff overseeing the development of the report or to the 25 study groups that performed assessments in preparation of writing the report. The GAO nonetheless further concluded that, although the study focus and methodology were limited, most of the recommendations appear to be sound. (pp. 5-6/GAO Draft Report)

See comment 2.

Now on pp. 3-5.

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See comment 6.

**DOD Response:** Non concur. The limitations cited by the GAO focus broadly on overall capabilities, not on the assignment of Service responsibilities. For example, GAO makes the statement regarding theater air interdiction that only fixed-wing aircraft were considered in the Roles and Missions Report, and not cruise or surface to surface missiles. The GAO intent was to suggest that DOD fields excess capabilities, without suggesting why it is militarily important to field a range of systems. The Department contends the requirement for overall force levels should be addressed through the normal planning, programming and budgeting processes and that these matters do not belong in the Roles and Missions Report. One theater air interdiction issue which was studied was the use of Air Force strategic bombers freed up from former Cold War duties in what had previously been a Navy and Air Force tactical aircraft scenario. This is clearly a Roles and Missions issue which needed further definition. That definition was provided by the conclusion that the bombers could play a role in theater air interdiction and therefore should be considered along with attack aircraft in future determinations of total aircraft required for theater air interdiction.

See comment 7.

The draft GAO report also suggests that the Joint Staff's review did not consider several key functions such as strategic nuclear forces, command and control communications, and logistics. These three issues were, in fact, commented on extensively in Chapter II of the Report. These topics were viewed as important enough to have had their own working groups and an entire section of the Report dedicated to each regarding what has been accomplished and what is currently ongoing in those areas.

See comment 8.

Now on p. 77.

The GAO asserts that methodological limitations hampered the depth of the study since no written guidance was provided to the working groups or to the Joint Staff team which oversaw development of the Report. The Roles and Missions Report was a complex undertaking covering some 25 different issues affecting all four Services. Recognizing the dynamics of such a challenging project, the Director of the Joint Staff had daily meetings over a period of several weeks with the working group chairmen to provide guidance and receive feedback on the various topics. The Joint Staff team which drafted the report met at least weekly, and in some cases daily, with the Chairman and Vice Chairman of the Joint Chiefs of Staff to review progress on the development of the Report. That this guidance was verbal and interactive with the principals is further testimony to the importance and emphasis placed on the preparation of this report.

See comment 8.

The GAO also asserts that the Joint Staff's analyses were of short duration and relied on existing studies as the source of information and analysis. The reality is quite different. The members of the working groups were the Joint Staff and Service experts in their various topic areas. They were hand-selected for their expertise and depth of knowledge, and brought to the discussions a wealth of information in their topic areas. In all cases the working groups had at least 75 years, and in some cases more than 100 years, of collective experience. This high level of working group expertise, coupled with the direct and close supervision of the Chairman and Vice Chairman of the Joint Chiefs of Staff, and the review and commentary of the Service Chiefs and Combatant Commanders, resulted in a process that was fast-moving, efficient, and productive. The fact that recently completed, existing studies were used in some cases merely reinforces the Department's view that this document represents but a snapshot of a process which continues every day in the Armed Forces.

**ISSUE 2: Factors Inhibiting an Aggressive Examination of Overlapping Capabilities.** The GAO concluded that the potential disruption to Service force structures and weapon system programs--with direct implications for end strengths, budget levels, and Service traditions--represents a formidable obstacle to reducing duplicative roles, functions and capabilities. The GAO further concluded the DOD directive that assigns functional responsibilities to DOD components, in defining the functions broadly to meet Service approval, has allowed the Military Services to develop autonomous capabilities and to operate as separate entities.

The GAO observed that the duplication of capability is further reinforced by the weapons acquisition process. The GAO pointed out that the DOD defends the duplications of capabilities and its approach to weapons acquisition on the basis that each Service has valid complementary requirements. The GAO concluded the question is whether, in the post-Cold War era, the United States needs, or can afford, that level of redundancy. (pp. 7-9/GAO Draft Report)

**DOD Response:** Non concur. GAO does not take into account the massive and continuing changes engendered by the Goldwater-Nichols Act and subsequently implemented throughout the Department. There has never, in the entire history of this nation, been an Armed Forces structure that is as jointly-oriented as it is today. This is a real credit to the positive effect of recent defense reforms. The GAO assessment tries to make the case that weapons-system acquisition perpetuates unnecessary duplication. This completely ignores the pivotal role played by the Joint Requirements Oversight Council in reviewing every major acquisition program in all of the Services for direct and indirect joint applications. GAO questions the validity of having any duplicative capabilities, stating that the flexibility the combatant commanders found helpful in the Cold War era might be unneeded or unaffordable in the post-Cold War era. It is the unanimous military judgment of the Joint Chiefs of Staff and the Combatant Commanders-in-Chief that the complementary capabilities provide invaluable flexibility to US leadership in time of crisis and are an absolutely necessary part of this nation's ability to respond to unforeseen and often quickly-developing international emergencies. Contrary to the GAO assertion, the complementary nature of our forces has even more relevance today than during the Cold War with its more static bipolar international alignments. With a regionally-oriented strategy in a multi-polar world, the flexibility to respond appropriately to geographically dispersed, diverse and unpredictable crises takes on increased, not decreased, importance. The Services have developed highly effective combat teams that have performed superbly in both peace and war.

**ISSUE 3: Opportunities for Further Change.** Referencing its work in progress, as well as prior reports, the GAO concluded there are several opportunities for additional reductions, consolidations, and other changes that would result in economies and efficiencies in Defense operations. The GAO identified the following:

in providing overseas presence, use less costly options for satisfying many of the aircraft carrier battle group traditional roles; in strategic nuclear forces, reassess the need to continue to maintain all three capabilities-- land, sea, and air-based;

Now on pp. 5 and 6.

See comment 2.

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in reserve forces--to improve reserve participation in future conflicts and to help rectify support force weaknesses--(1) replace active support forces with reserve forces wherever such forces can be readied to meet required timeliness, and (2) convert some late deploying reserve combat forces to support forces;

in crises response forces, consider whether the number of Army light infantry and Marine divisions is more than what is necessary to meet expected threats;

in depot maintenance, examine (1) cross- servicing proposals, (2) increased use of private sector maintenance capacity, and (3) the large amounts of depot-like capacity that exist at intermediate level maintenance units;

in maintenance, determine whether reductions in the number of military units established to repair equipment in the rear area of the battle zone are possible--considering the significant contributions civilians are likely to make in accomplishing those tasks;

in the test and evaluation infrastructure, consolidate Air Force and Navy electronic warfare test capabilities, as well as high performance fixed wing aircraft test capabilities;

in strategic mobility, explore making greater use of combat equipment aboard current Marine Corps prepositioning ships as an alternative to acquiring all of the planned ships for Army equipment;

in combat logistics, expedite the establishment of a single supply system to give greater visibility of inventories to wholesale level managers and facilitate redistribution of excess inventories;

in antisubmarine warfare, closely examine the possibility of further consolidation of the undersea surveillance capability;

in training, further explore the use of civilian education institutions;

in space infrastructure, further examine the potential for eliminating the Army and Navy space commands;

in defense intelligence, pursue consolidating (1) European theater Service component intelligence organizations and activities, and (2) Air Force intelligence activities into a single command;

in aerial refueling, explore enhancing refueling operations through expanded use of a common refueling system; and

in communications, consider making the Atlantic Command, which will be the joint command for U.S.-based forces, the focal point for establishing or reviewing all joint command, control, communications, computers, and intelligence requirements to ensure effective interoperability. (pp. 9-12/GAO Draft Report)

Now on pp. 6-8.

See comment 9.

See comment 5.

**DOD Response:** Partially concur. Many of the GAO proposals have been considered over the past three years since the last Roles and Missions report. Those that were pursued in detail are reported in both Chapters 2 and 3 of the Report. However, in preparing their list of work in progress, as well as prior reports, the GAO included areas that have little or nothing to do with roles, missions or functions, but are, rather, keyed to DOD planning, programming, and budgeting--the so-called "how much?" issues. Examples include reviewing the number of light Army and Marine divisions needed, reducing the number of military units established to repair equipment in the rear area of the battle zone, exploring greater use of prepositioning ships, consolidating undersea surveillance, and exploring enhanced air refueling operations. Further, in those areas identified where a legitimate roles and missions issue does exist, GAO fails to consider any capabilities tradeoffs. A prime example of this is in the area of overseas forward presence. GAO suggests using surface combatants as substitutes for aircraft carriers in order to save money without commenting on the need to carefully examine the differences in capabilities of those platforms. In fact, GAO makes the unsupported assertion that "DOD could meet its forward presence needs with a smaller carrier force," but the unstated "cost" of that approach would be the degradation of capability that the Combatant Commanders would find unacceptable.

The fifteen specific "opportunities" identified by GAO as part of this issue are duplicated in the subsequent issues identified in their report and will therefore be addressed by DOD as individual issues.

Now on pp. 19-22.

**ISSUE 4: Theater Air Interdiction.** The GAO observed that the Chairman's report focused on fixed wing aircraft and did not fully acknowledge other interdiction capabilities. The GAO concluded that all assets with interdiction capabilities--bomber and attack, carrier- and land-based aircraft, and cruise and surface-to-surface missiles fired from land and sea--should be considered when calculating requirements and assessing capabilities for theater air interdiction. (pp. 23-26/GAO Draft Report)

See comment 10.

**DOD Response:** Non concur. The subject under study was theater air interdiction, not interdiction in general. The key issue in question was not to identify that cruise and surface-to-surface missiles have a part to play in interdiction, which is acknowledged in the Roles and Missions Report, but rather if, in the post-Cold War world, air interdiction could be performed by long-range bombers freed up from former Cold War missions. Additionally, there was investigation into the types of weapons, capabilities, and modifications necessary to make bombers more effective for that mission. The Roles and Missions Report researched the impact of equipping bombers with precision guided weapons and the possible impact this would have on the mix of attack aircraft and bombers in a given air interdiction strike package.

As weapons systems continue to evolve, an overall study of interdiction along the lines of a Joint Mission Area Analysis might be useful, but that was not the intent of the Chairman's report which specifically focused on the contribution of land-based bombers to the air interdiction mission.

See comment 6.

The GAO assertion that all assets with interdiction capabilities should be considered when calculating requirements for theater air interdiction is more correctly a planning, programming and budgeting issue, not a Roles and Missions issue.

Now on pp. 22-24.

**ISSUE 5: Close Air Support.** The GAO concluded that the Chairman's report did not address (1) the potential contributions of other weapons systems in providing close-in fire support, (2) whether current close air support systems can be made survivable on modern battlefields, or (3) whether plans to modernize the close air support capabilities of each of the four Military Services are warranted. (pp. 27-30/GAO Draft Report)

See comment 10.

**DOD Response:** Non concur. The Roles and Missions Report specifically recommended that attack helicopters be considered as Close Air Support assets. This is directly tied to roles and missions and also involves updating doctrine that results from the emergence of new technologies. All other aspects of the GAO assessment pertain to programmatic issues.

Now on pp. 24-26.

**ISSUE 6: Marine Corps Tactical Air.** The GAO observe the Chairman's report did not include a detailed analysis comparing the Marine Corps approach for providing close air support, in which both fixed-wing and rotary-wing aircraft are owned and operated by the same Service, with the Army-Air Force approach, whereby one Service contributes rotary-wing assets while the other provides fixed-wing capabilities. The GAO concluded a more extensive evaluation of factors, such as differences in Marine and Army-Air Force training could determine which concept works better and whether benefits would accrue by using one approach to close air support throughout the military. (pp. 30-32/GAO Draft Report)

See comment 10.

**DOD Response:** Partially concur. The GAO correctly points out that the Roles and Missions Report does not compare or contrast the Marine Corps' approach to tactical aircraft support to the ground forces with the Army-Air Force approach. What the GAO assessment does not recognize, however, is that the Army-Air Force approach to providing air support to ground troops will necessarily differ from that of the Marine Corps because of the different roles the Services fulfill and the different operating environments in which those roles are carried out. The expeditionary and amphibious aspects of the Marine Corps' role differ markedly from the major land campaign orientation of the Army. GAO simplistically aggregates Army and Marine Corps forces together under the general heading of "ground forces" with no regard for the distinctions between their differing roles as assigned in law by Congress. Further, the GAO comments fail to incorporate the Roles and Missions recommendation that all the Services should be assigned Close Air Support responsibilities. For example, Air Force could be tasked to provide close air support for Marine amphibious operations or Navy provide support for Army land campaigns. This joint assignment of responsibilities makes great sense operationally and will help gain greatest benefit from the way air power is applied by the Services.

**ISSUE 7: Contingency and Expeditionary Forces.** The GAO observed that, while it supported the need to retain contingency and expeditionary forces in both the Army and Marine Corps, the planned numbers of light forces under the Base Force option may be greater than what is needed to cope with future threats. The GAO concluded that the trend in the Army and the

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Now on pp. 26-28.

Marine Corps toward developing similar combat capability and the apparent excess in light forces suggests the need to reassess how much similar capability is desirable. (pp. 32-34/GAO Draft Report)

See comments 2 and 10.

**DOD Response:** Partially concur. The complementary capabilities of the contingency and expeditionary forces in the Army and Marine Corps provide the Combatant Commanders-in-Chief with important flexibility and war fighting potential and should be retained. The Roles and Missions Report has clearly stated the possibility of further decreases in Army light infantry. However, this programmatic issue will be considered in the context of overall resource allocations.

Now on pp. 28 and 29.

**ISSUE 8: Nuclear Forces.** The GAO observed, that while acknowledging reductions in the nuclear threat to the United States, the Chairman's report did not address whether it is still necessary to maintain a strategic triad of deterrent systems. The GAO concluded the demise of the Soviet threat and the signing of the START treaties signal changes in the threat that strongly suggest the need for the nuclear triad, as currently comprised, must be reevaluated. (pp. 34-37/GAO Draft Report)

See comment 10.

**DOD Response:** Non concur. The GAO asserts that the Roles and Missions Report should have addressed the necessity for continuing to maintain the triad of strategic forces. The Roles and Missions Report identified the major reduction in nuclear weapons that will occur when the START treaties are ratified, and states that because of these reductions the nuclear role of the Army and Marine Corps has been eliminated. The Department believes it is necessary to maintain a triad of nuclear forces to hedge against uncertainty in the former Soviet states and against the risks of nuclear proliferation elsewhere.

Now on pp. 30-33.

**ISSUE 9: Forward Presence.** The GAO concluded that increased reliance on other naval force configurations (i.e., non-carrier battle groups) to provide forward presence is possible because of the increased capabilities of the ships and weapon systems that comprise those alternative groups. (pp. 37-42/GAO Draft Report)

See comment 10.

**DOD Response:** Partially Concur. The GAO correctly observes that the forward stationing portion of forward presence is being dramatically reduced and that new concepts are being developed in the area of forward deployments partially to offset some of the reductions in capability the overseas stationing has created, and partly to save money. GAO then provides a subjective judgment that Navy carrier battlegroup deployments should be reduced in order to reduce costs, and other ship mixes should be utilized. Unfortunately, this assessment provides no evaluation of current operating tempos of Navy carrier forces generated by the Combatant Commanders' requirements or of the significant capability reductions, and therefore increased risks, of deploying a cruiser in lieu of an aircraft carrier. GAO asserts that new systems aboard surface combatants make them increasingly suitable for regional crises. The Department contends this claim does not consider the full range of capabilities of the carrier battlegroup nor the flexibility and utility it provides to the combatant commanders. Further, there is no discussion by GAO of the joint aspects of forward deployments and how one Service's forces may complement or partly replace the forces of another--issues that are being evaluated today during deployment of various force mixes.

**ISSUE 10: Strategic Mobility.** The GAO observed that the Chairman's report did not make recommendations in strategic lift. The GAO also pointed out that the January 1992 Mobility Requirements Study did not address the possibility of making greater use of the Marine Corps' three maritime prepositioning squadrons as a substitute for some or all of the recommended Army afloat prepositioned assets. The GAO concluded that the alternative of making greater use of the Marine Corps squadrons is a realistic assumption, considering the experience of the Gulf War. (pp. 42-45/GAO Draft Report)

**DOD Response:** Non concur. The GAO correctly comments that the Roles and Missions Report does not offer recommendations in strategic lift. Rather, the Report cites the extensive, detailed analysis of the Mobility Requirements Study which established the framework for current and future lift initiatives. The GAO criticism is therefore directed at the Mobility Requirements Study, not at the Roles and Missions Report. However, in reviewing the comments GAO has made on the Mobility Requirements Study, it is noted that greater use of the Maritime Prepositioning Squadron, as currently structured and homeported, will not reduce the need for Army prepositioning or for ships to deliver the critical two Army heavy reinforcing divisions to a combat zone in about four weeks.

**ISSUE 11: Reserve Forces.** The GAO observed that its work, like RAND, demonstrated the need for major improvements to reserve readiness if combat reserves are to be used in anything less than a protracted conflict. The GAO noted it had suggested changes to restructure some reserve combat forces into smaller battalion- or company-sized units that could (1) be readied more quickly to deploy, (2) increase the involvement of active duty personnel in reserve units, and (3) improve the match between reserve unit assignments and the skills gained on active duty or in their civilian occupations. (pp. 45-49/GAO Draft Report)

**DOD Response:** Non concur. The GAO targets the Army's system of employing its reserve forces. The Department contends this Army force structure issue does not have Roles and Missions implications for the Services as a whole. GAO accurately notes that the Army is already analyzing its current composition of combat and support forces and the merits of converting late-deploying reserve combat forces to support forces.

**ISSUE 12: Combat Logistics.** The GAO observed that the Chairman's report did not make recommendations in combat logistics. The GAO concluded that much remains to be done to reconfigure the inventory levels to reflect Service needs more accurately. (pp. 49-52/GAO Draft Report)

**DOD Response:** Non concur. The GAO correctly states that the Roles and Missions Report did not make specific recommendations in the area of combat logistics, other than to endorse the aggressive programs being pursued by the Services to reduce unneeded stocks. Though GAO cites a number of previous GAO studies in this area, some quite dated, which assert that DOD has not done enough to reduce or restructure inventories, GAO does not acknowledge that DOD reduced inventories by some \$34 billion in the three-year period from 1989-1992. This reduction in inventories continues and will continue for the foreseeable future. The programs for inventory reduction and restructuring are in place and operating in all the Services and agencies and are achieving outstanding results.



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Now on pp. 41-43.

**ISSUE 13: Depot Maintenance Consolidation.** The GAO observed the Chairman's report recommended (1) establishing a Joint Depot Maintenance Command to reduce and restructure depot maintenance by 25-50 percent, (2) closing seven or eight of the 30 military depots, which could save between \$400 to \$600 million per year, and (3) using the Base Realignment and Closure Commission process to nominate depots for closure or consolidation. The GAO concluded that a more rigorous analysis is needed to support future depot downsizing efforts. (pp. 52-55/GAO Draft Report)

See comment 10.

**DOD Response:** Non concur. The GAO concluded that a more rigorous analysis is needed to support future downsizing efforts. In fact, the Roles and Missions Report 1) states there is 25-50% excess depot capacity, 2) unnecessary duplication exists throughout individual Service depots, 3) closure of 7 or 8 depots, as a first step, is recommended, and 4) additional study is required to properly match depot capacity with future requirements.

Now on pp. 44 and 45.

**ISSUE 14: General Support Maintenance.** The GAO observed that the Chairman's report did not address general support maintenance. The GAO pointed out that its April 1993 report entitled--"Army Maintenance: Strategy Needed to Integrate Military and Civilian Personnel Into Wartime Plans" (OSD Case 9268) revealed deficiencies necessitating corrections, which could affect the Army maintenance strategy for war, as well as the role of civilians. (pp. 55-58/GAO Draft Report)

See comment 10.

**DOD Response:** Non concur. The Department believes this is largely an Army issue. It is now under study within the Department of the Army. It has only marginal cross-Service implications and therefore does not have an appropriate place in the Roles and Missions Report.

Now on pp. 45-47.

**ISSUE 15: Defense Intelligence.** The GAO observed it is unclear in the Chairman's report how a restructured Defense intelligence community will meet the theater and tactical intelligence requirements of the Joint Task Force war-fighting commander. The GAO concluded that decisions concerning the future roles, missions, and functions of certain Defense intelligence activities remain unresolved. (pp. 58-60/GAO Draft Report)

See comment 11.

**DOD Response:** Partially concur. The GAO correctly comments that some intelligence issues remain unresolved. However, the GAO incorrectly asserts that the Air Force has not consolidated its intelligence activities. In 1991, the Air Force began consolidation of its intelligence centers, Electronic Security Command and numerous other intelligence activities into a single Air Force Intelligence Command. This command is currently being streamlined. Further, GAO does not identify the significant consolidations made in forming the Joint Intelligence Centers or in eliminating individual Service intelligence watch centers in Washington, DC by forming the National Military Joint Intelligence Center.

Now on pp. 47-49.

**ISSUE 16: Space Infrastructure.** The GAO agreed that the military space infrastructure should be reviewed. The GAO concluded that, considering the expense of maintaining component space commands and the need to address unnecessary duplication among the Services, the need for continuing a separate Army, Navy, and possibly Air Force space command merits re-examination. (pp. 60-63/GAO Draft Report)

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See comment 10.

**DOD Response:** Partially concur. The GAO correctly states that there are many questions needing further study before a decision can be made on the consolidation of Space Command and Strategic Command, including political and operational consequences. This study is underway at the direction of the Secretary of Defense and under the auspices of the Joint Staff and will explore all of the questions raised by GAO in detail. The GAO also questions the need for continuing separate Army, Navy and possibly Air Force space commands. The final form of the space infrastructure is being examined as part of the SpaceCom-StratCom consolidation study. However, the Department contends there is a need to maintain separate Service space commands in order to maintain a strong cadre of Service expertise in space operations as the use of space in warfighting by all the Services expands dramatically. It is essential that each Service understands how to maximize the utility of space systems and functions in support of Service and joint operations.

Now on pp. 49-51.

**ISSUE 17: Training and Test and Evaluation Infrastructure.** The GAO observed the Chairman's report recommended that the Secretary of Defense designate an executive agent to streamline the test and evaluation infrastructure. The GAO recommended that the DOD consider consolidating in two areas--(1) Air Force and Navy electronic warfare threat testing capabilities and (2) high performance fixed wing aircraft testing capabilities--as previously suggested by the DOD Director, Test and Evaluation. (pp. 63-66/GAO Draft Report)

See comment 10.

**DOD Response:** Partially concur. The Department is working now towards a solution that will achieve streamlining and major management efficiencies. The Test Resources Management Plan, with all-Service participation, details a clear strategy and process to consolidate test capabilities and functions in 11 national T&E sites (as opposed to the current 23 facilities) while still maintaining essential Service-specific capabilities. The draft of that proposal is now being circulated for comment.

Now on pp. 52-54.

**ISSUE 18: Aerial Refueling.** The GAO observed the Chairman's report did not address the larger issue of equipment incompatibilities that limit the aerial refueling interoperability of fighter aircraft. The GAO concluded that a full and objective assessment of the refueling initiative pros and cons from a cross-Service perspective is required before it will be clear how the DOD can best meet its aerial refueling needs with a reduced force structure. (pp. 66-69/GAO Draft Report)

See comment 10.

**DOD Response:** Partially concur. The issue of multi-point tanking configuration of large jet tankers, such as the KC-10 and the KC-135, is not a roles and missions issue. However, the Report did make a passing reference to the tanker-configured KC-130's owned by the Marine Corps. The GAO has prepared a separate assessment on the topic of multi-point tanking and large jet tankers. A draft response to this report, entitled "Aerial Refueling Initiative: Cross-Service Analysis Needed to Determine Best Approach" is being prepared by DOD.

Now on pp. 54-55.

**ISSUE 19: Antisubmarine Warfare.** The GAO observed that the antisubmarine warfare function was not addressed in the Chairman's report. The GAO concluded that, with the dissolution of the Soviet submarine threat, the Navy can consolidate its undersea surveillance capabilities further and achieve greater cost avoidance than under the more limited consolidation plan it is currently pursuing. (pp. 69-71/GAO Draft Report)

See comment 10.

**DOD Response:** Non concur. By its own admission, the GAO has no basis for raising this as a roles and missions issue. There are, however, some inaccuracies in the GAO comments which should be pointed out. The GAO makes the unsupportable assertion that the submarine threat has dissolved. This stands in stark contrast to the ongoing Russian submarine construction program, the improvements in quieting achieved by the Russian submarine fleet, the level of Russian investment in continuing high technology development, and the Russian export of modern, quiet diesel-electric submarines to Third World countries. The cost savings cited by GAO are inaccurate. They were based on a budget line from which the Navy has departed. As stated in the DOD response to the GAO draft report on this subject, many of the GAO proposals could not be executed for technical reasons, reflected unrealistic projected personnel savings, and were judged to be imprudent from a risk perspective due to the current international environment.

Now on pp. 55-58.

**ISSUE 20: Training.** The GAO observed that various aspects of training were addressed at several points in the Chairman's report. The GAO concluded that, in efforts to reduce the cost of training, the use of civilian educational institutions to provide initial skills training warrants continued examination by the DOD. (pp. 71-74/ GAO Draft Report)

See comment 10.

**DOD Response:** Non concur. GAO suggests the use of civilian community colleges to provide initial skills training for the Services. This is clearly not a roles and missions issue. The methods of providing initial training by each Service must be evaluated to ensure needed training attributes are available and to obtain the highest quality of training available. Each Service has unique requirements. Tradeoffs among various training approaches remain with the Services, which are responsible for organizing, training, and equipping their forces.

Now on pp. 58-60.

**ISSUE 21: Command and Control Communications.** The GAO observed the Chairman's report did not contain recommendations on communications, but it did acknowledge improvements are needed and made the point that a new concept--command, control, communications, computers, and intelligence (C4I) for the warrior is intended to achieve global communications interoperability. The GAO concluded that the DOD may need to (1) place special emphasis on ensuring that an effective integrated C4I architecture is completed in a timely manner to serve as the link between operational requirements and systems development--and (2) establish a joint program management office, with execution authority and funding controls to ensure enforcement of interoperability during the acquisition process

See comment 12.

**DOD Response:** Partially concur. The GAO suggestion that the new Atlantic Command, as the joint force provider, should take the lead in C4I requirements bears further evaluation. The suggestion that the Atlantic Command also ensure effective C4I interoperability through joint training and exercises is a natural spin-off of the command's joint training responsibilities. DOD is already placing special emphasis on integrating C4I architecture through the "C4I for the Warrior" program. "C4I for the Warrior" provides the roadmap for present and future C4I support for joint warfighting. The GAO suggestion that a joint program management office be established to ensure enforcement of interoperability bears further evaluation and will be studied as the concept matures.

## GAO Comments

1. We agree that the Goldwater-Nichols Act has produced many benefits, including improved joint operations. We also note, however, that with the changed national security environment the issue of duplicative military capabilities—to include force structure and weapon systems—must yet be directly addressed.
2. We have addressed this comment in the agency comments section of the report.
3. We have addressed this comment in the agency comments section of the report and have made changes to discussions of employment schemes where needed.
4. There is no need to change the report. The report notes the importance of post-cold war functions pointing out that the Chairman's report did not examine them in detail.
5. We have addressed this comment in the agency comments section of the report. A more complete discussion of the trade-offs in substituting surface action groups for carrier battle groups is included in the forward presence section of appendix II.
6. We have revised the report to include a discussion of this issue in the agency comments section of the report. The report does acknowledge why the Department believes it is important to field a range of theater air interdiction systems, that the Department believes force level requirements should be addressed in the planning, programming and budgeting process, and that the Joint Staff studied the use of strategic bombers.
7. This discussion has been deleted from the report. However, it should be noted that the Joint Staff told us these working groups were disbanded early in the staff's review process.
8. The report has been revised to include this information.
9. The one specific proposal we have made that is addressed, but not in detail, in the Chairman's report is the elimination of the Army, the Navy, and possibly the Air Force space commands. This proposal and the Department's comments are discussed in more detail in the space infrastructure section of appendix II.

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**10. We have addressed this comment in the report.**

**11. The report does recognize DOD's progress in the intelligence area and has been revised to clarify this point.**

**12. No change to the report is required.**

# Process Followed by Joint Staff in Preparing Chairman's Report

The Director of the Joint Staff began the process in April 1992, developing a list of areas/functions he believed appropriate for the Chairman's report. He discussed these with members of the Joint Staff to ascertain whether there were already ongoing actions or whether a new action would have to be initiated to examine the area in question. From these discussions, an initial list of functions was developed. This process lasted through May 1992.

Once the list of functions was established, the Director began assembling a small group of experts from within the Joint Staff. This group examined each of the proposed functions to ascertain whether there was any real potential for improvement in the execution of the function, including eliminating unnecessary duplication. From this group of experts, the working group chairmen were selected. They began gathering information and defining their tasks in about June/July 1992. They also began to develop individual working groups, drawing initially from within the Joint Staff and then from the services. This gradual expansion of the working groups and immersion into the effort on an increasingly full-time basis occurred through July and August 1992.

The Director instructed the working groups to plan on completing their work by October 1, 1992, providing the results of their work to the staff coordinating the effort. Their inputs were combined into a product that became the December 18, 1992, draft of the report. This draft was forwarded to the commanders in chief and the services for comment. Their comments were incorporated, where appropriate, and a January 22, 1993, draft was prepared. The commanders in chief and services were given the opportunity to make additional comments on that draft. These comments were either accepted or rejected, and the ensuing document was the final version. The Chairman signed the report on February 10, 1993.

No written guidance was provided to either the Joint Staff that oversaw development of the report or the 25 working groups that performed the assessments. Instead, the Joint Staff relied on extensive verbal communication. Initially, there were 34 working groups, but several were disbanded and others combined, resulting in the following 25:

1. Space infrastructure
2. Depot maintenance consolidation
3. Continental air defense
4. Theater air interdiction

5. Close air support
6. Marine Corps tactical air
7. Flight training
8. Airborne command and control
9. Operational support aircraft
10. Tactical airlift/tankers
11. Jammer aircraft
12. Electronic surveillance aircraft
13. Contingency and expeditionary forces
14. Tanks and multiple launch rocket system
15. Theater air defense
16. Training, and test and evaluation infrastructure
17. Operating tempo
18. Initial skills training
19. Combat search and rescue
20. Attack helicopters
21. General support helicopters
22. Aircraft Inventory Management
23. Forward presence
24. Construction engineers
25. Chaplain and legal corps

We met with members of the first 18 groups.

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